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Increasing an Individuals Trait Gratitude
by Modifying Interpretation Biases

A Thesis Presented To
Eastern Washington University
Cheney, Washington

In Partial Fulfillment of the Requirements
for the Degree
Master of Science in Clinical Psychology

By Peter Munger
Fall 2019

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Abstract

The purpose of this research was to determine if a person's disposition of gratitude can be modified through Interpretation Bias Modification (IBM) techniques. This research should help us understand the causal relationship between interpretation-bias and gratitude. Because gratitude is vital to subjective well-being (SWB), enhancing one's disposition for gratitude is important, and IBM may provide one means for enhancing gratitude. This research involved students, randomly assigned to one of two conditions (Positive IBM, Negative IBM). Following the training phase, benefit-related interpretation bias was assessed with several measures, as well as current emotional states. Data from 82 participants were analyzed and included in the results of this experiment. I predicted that those in the positive benefit-related interpretation training condition would show a stronger positive interpretation bias and greater gratitude than those in the comparison condition. Results found that participants in the positive training condition were more positive in their benefit interpretations than those assigned to the negative training condition. Evaluating a personal benefit from their life, participants in the positive training evaluated the benefit as having greater value, and the benefactor was viewed as being more altruistic, although the cost of the benefit was not changed compared to the negative training condition. Additionally, those in the positive training condition showed greater gratitude and joy and less negative emotions as compared to participants in the negative training condition.

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Increasing an Individuals Trait Gratitude: by Modifying Interpretation Biases

“Gratitude is a quality like electricity: it must be produced, projected and consumed to exist at all” (Faulkner, & Garrett, 1994, p.575).

Gratitude has frequently been associated with the good life and is a crucial component of the field of Positive Psychology. Multiple studies have found that gratitude is strongly correlated with happiness, and this relationship has held across several different populations (e.g., McCullough, Emmons, & Tsang, 2002; Watkins, Woodward, Stone, & Kolts, 2003; for a more comprehensive review, see Watkins, 2014). Although gratitude exercises such as grateful recounting have been shown to be effective in enhancing Subjective Well-Being (SWB), more than likely, it is the disposition of gratitude (one’s proclivity for experiencing gratitude) that is more important to individual happiness. Thus, interventions that enhance the grateful disposition are needed, yet very little research has attempted to modify a person’s inclination towards gratitude. The goal of this research is to develop a method of modifying an individual’s tendency towards gratitude by modifying benefit-related interpretation bias and examine the effectiveness of that modification technique. In this research, I examined the effectiveness of using a technique from Interpretation Bias Modification paradigm (IBM) to train a person’s inclination towards gratitude much in the same way that IBM has been useful for altering negative interpretation biases characteristic of anxiety and depression (Bowler et al., 2012).

Gratitude can be a confusing term to define. Even within the field of Positive Psychology, gratitude has been described as an emotion, an attitude, a moral virtue, a habit, a personality trait, or even a coping mechanism (Emmons & McCullough, 2003). According to Weiner (1985), gratitude as an emotion is attribution-dependent, in that one has realized a positive outcome that

has been intentionally provided to them by an outside source. Among some of the more simplistic definitions, gratitude is “a sense of joy and thankfulness in response to receiving a gift” (Emmons 2004, p. 554).

Despite the various definitions, gratitude has consistently been shown to relate both to higher SWB (regarding positive affect and overall life satisfaction), and a reduction in depressive symptoms (e.g., Wood, Froh, & Geraghty, 2010). Many studies have found that gratitude is linked to well-being, and that well-being is linked to other benefits. For instance, studies have established a clear correlation between gratitude and prosocial behaviors (e.g., Ma, Tunney, & Ferguson, 2017). It is also important to note that cardiovascular and sleep-related health benefits have been associated with increasing gratitude (Jackowska, 2016). Also, evidence has shown gratitude leads to more adaptive coping styles (Wood, Joseph, Linley, 2007), and these coping styles, in turn, enhance well-being (Crockett et al., 2007).

Due to these strong correlations, it is evident that gratitude, well-being, physical health, and psychological health are, in many ways, interconnected. Therefore, I assert that gratitude is a critical component for a good, happy, and fulfilling life. The question, however, arises that if gratitude is this much of a crucial factor in our lives, can something be done to increase a person’s trait gratitude, and if so, how can this be accomplished? Emotions like gratitude can be conceptualized on levels of state or trait (Rosenberg, 1998). At the state level, emotions involve temporary effects, while at the trait level they can be characterized as how frequently a person is likely to experience gratitude. Trait level characteristics have longer-lasting implications; for this reason, it is the trait level gratitude that this experiment is aimed at modifying.

Other Gratitude Interventions

Several gratitude interventions have been established that help to encourage positive affect and other aspects of wellbeing through enhancing gratitude. Gratitude intervention activities have included creating gratitude lists, writing letters of gratitude, and expressing gratitude directly to loved ones (for reviews, see Watkins, 2014; Wood et al., 2010). One method that has shown to be helpful in increasing gratitude is keeping weekly gratitude journals (e.g., Emmons & McCullough, 2003, Study 1). Although this has been a valuable tool for enhancing the frequency of grateful emotion, little research has been done to find methods for enhancing a person's *inclination towards gratitude*. It would seem that for a person to change their disposition for gratitude, they would need to change their habitual interpretation tendencies in benefit situations. This study investigated a novel approach to train a person's proclivity towards gratitude using a technique that has previously been studied for reducing anxiety from the perspective of the Appraisal Theory of emotion.

Appraisal Theory of Emotions

Appraisal Theory of Emotions claims that emotions are generated from making appraisals about current or past events (Scherer, Schorr, & Johnstone, 2001). From the Appraisal Theory perspective, gratitude results from an individual recognizing the cost of a benefit to the benefactor, the altruistic motivations of that benefactor, and the value of the gift to oneself (Wood, Maltby, Stewart, Linley, & Joseph, 2008). Since gratitude has repeatedly shown to be correlated with well-being and happiness (e.g., Watkins, Woodward, Stone, & Kolts, 2003), it is essential to develop interventions that train processes important to trait gratitude. It seems reasonable that this could be accomplished by training appraisals that research has shown are important to grateful responses.

IBM Methodology

The purpose of this research is to examine the effectiveness of using a technique from the Interpretation Bias Modification paradigm (IBM) to train a person's inclination towards gratitude. IBM has been shown to be a useful technique for altering negative interpretation biases characteristic of anxiety and depression (Bowler et al., 2012). In the IBM used by Bowler et al. (2012), participants went through 4 sessions where they were shown and instructed to imagine themselves in a series of 40 ambiguous scenarios with the last word missing letters that the participant filled in. That last word would clarify the ambiguity of the scenario.

Rather than using IBM for decreasing a negative interpretation bias, my study used IBM to encourage positive benefit-related interpretation biases, to increase gratitude. This was done using a single session with 80 ambiguous benefit scenarios. Each scenario was ambiguous as to various facets of the benefit until the last word of the scenario. The last word clarified the ambiguity of the scenario in either a positive or a negative manner. This last word was missing two letters, and the participant was required to generate the letters that completed the word. In the positive training condition, the final word would positively clarify the scenario, and in the negative training condition, this final word would negatively clarify the scenario.

Prior Research

In addition to the gratitude research mentioned, it is also important to consider prior research in the Appraisal Theory of Emotions, as well as Interpretation Bias Modification, to better understand the basis for my experiment. Appraisal theory of emotions claims that emotions are generated from making appraisals about current or past events (Scherer, Schorr, & Johnstone, 2001). Appraisal Theory of Emotions has two primary tenants: 1. Appraisals are responsible for causing an emotion, i.e., no appraisal means no emotion; 2. Appraisals are

responsible for differentiating the emotion, i.e., what emotion is elicited is dependent upon the appraisal (Frijda, & Zeelenberg, 2001).

Appraisal theory can be used to understand several different areas of cognition, either negative or positive cognitions. For example, an appraisal is central to theories of posttraumatic stress. Biased appraisals have been shown to contribute to the development of both dysfunctional beliefs and posttraumatic stress symptoms following a traumatic event (Nanney, Constans, Kimbrell, Kramer, & Pyne, 2015). Parkinson (1999) found that appraisals for both guilt and anger mixed depending on the extent to which the emotion was either rational or non-rational.

However, appraisals can appear as consequences as well as antecedents for emotions (Frijda, 1993; Frijda, & Zeelenberg, 2001). Appraisals can also occur in the parallel process and include unique mechanisms like associative processing for quick and automatic appraisals, and reasoning for a more in-depth, deliberate processing (Smith, & Kirby, 2001). Appraisal Theory argues that appraisals precede emotion and are necessary for emotions to occur. However, because appraisals can also result from emotions, most appraisal research to date cannot definitively determine that the appraisals are causing the emotional response. The design of this research will help to determine if these grateful appraisals or interpretation biases cause grateful emotion.

The concepts of appraisal theory are critical for understanding why IBM works and how it works. In appraisal theory, my gratitude induction experiment shows that appraisals of the benefit scenarios lead to a propensity towards gratitude. In behaviorist terms, there is a connection drawn here between the antecedent, behavior, and the consequence. In the case of this study of gratitude induction, appraising a scenario in a grateful manner (antecedent) leads to feeling grateful (behavior), which in turn leads to an appraisal of the grateful feeling

(consequence). Thus, grateful people might be happy people because they habitually interpret benefit situations in a positive manner (Watkins, 2004). Also, Wood et al. (2008) suggested that altering a person's cognitions might help to increase both the frequency and the intensity in which people experience gratitude and its associated social and well-being benefits. This is consistent with the cognitive therapy method of changing automatic thoughts to increase desirable outcomes (Beck, 1976). Research conducted by Froh et al. (2014) found that they could encourage gratitude by educating children about benefit appraisals by using a method of modifying their interpretation bias. This study used classrooms of children age 8–11 years assigned to a gratitude program or an attention-control program where psychology interns taught these children about gratitude using structured lesson plans. Through five sessions, the interns described that when other people are nice to us, they may be doing so intentionally (thereby illustrating to the child the intention), using supplies or money (illustrating the cost), and assisting us (showing benefit). Students that were in the attention-control condition were also provided lesson plans which followed an outline but focused more on the neutral topics, such as events of the day. The authors found that children can learn to become more aware of the cognitive appraisals involved in receiving help from another and that this makes children more grateful and benefits their well-being. The evidence thus supported the effectiveness of this intervention. Although this experiment had several limitations, including that it was done in classrooms where performing a randomized experiment was unfeasible, it does show the potential for influencing gratitude through interpretation bias modification.

Interpretation bias modification is a relatively novel yet promising approach for altering appraisals in ways that enhance gratitude. An individual's interpretation bias can have a snowball effect on mental processing. By gratefully interpreting events, a person can reinforce their

interpretation bias training during their day to day lives. The more frequently they positively appraise an event or situation that they encounter, the more likely they are to appraise future situations in a positive –grateful—manner. This effect has been studied in anxiety and depression. For instance, Beck and Emery (1985) argued that the type and number of stimuli needed to create anxiety in a person with a generalized anxiety disorder could reach a point that almost any stimuli are perceived as dangerous.

Initial research on interpretation bias conducted in the 1980s used a list of homophone words. A homophone is when you have two or more words that are pronounced in the same way, but each is a word having different meanings. For example, the words “lean” and “lien” are pronounced the same and yet have very different meanings. In the 1980s, research on interpretation bias used homophones, each consisting of a threatening meaning and a non-threatening meaning (e.g., die and dye). Homophones were presented audibly, and subjects with high and low trait anxiety just wrote down the spelling of each word. This research found that participants who were anxious at the time of the experiments produced significantly more threat-related spellings than did non-anxious control subjects (Eysenck, MacLeod, & Mathews, 1987; Mathews, Richards, & Eysenck, 1989).

A significant problem with this research was in the methodology. First, the words in these experiments had to be presented in isolation and out of any context. This is not how people communicate in the real world. Second, there is a limited number of homophonic words that contain a threat and non-threat definition, thereby creating statistical problems by severely limiting the relative frequency of interpretations.

In 1991, research on interpretation bias was conducted using ambiguous sentence structures that could then be construed by the participant in either a threatening or a non-

threatening manner (Eysenck, Richards, Mogg, Eysenck, M., 1991). This research eliminated the problems with single words presented out of context and allowed for a much broader selection than what homophone words would permit. The results of this study were found to be consistent with the theory of interpretation bias in that participants who were more anxious did tend to rate the ambiguous sentences more unpleasantly than participants who were less anxious (Eysenck et al., 1991). These findings support the theory that anxious individuals have habitual negativistic interpretation biases. This leads to the seemingly reasonable proposal that grateful individuals have habitual positivistic benefit-related interpretation biases. Indeed, using a method similar to Eysenck et al. (1991), recent research has shown that grateful individuals have these positive interpretation biases (Scheibe, Watkins, McCurrach, & Mathews, 2016). Thus, it follows that if these positive interpretation biases can be encouraged in individuals, this should enhance one's disposition for gratitude.

Throughout the 1990's studies using sentences and even more complicated text found similar interpretation bias findings (e.g., Calvo, & Castillo, 1997; Calvo, Eysenck, & Castillo, 1997; Calvo, Eysenck, & Estevez, 1994; Hirsch, & Mathews, 1997; MacLeod, & Cohen, 1993; Richards, & French, 1992). Given the existence of these interpretation biases and the likelihood that they contribute to habitual emotional responses, can these biases be modified? It was not until the 2000's that research began to turn towards a modification of these interpretation biases. In several of the studies conducted, participants were induced to interpret ambiguous information in either a threatening or a non-threatening manner. The findings of these research studies suggested negative and positive inductions were effective at modifying a participant's interpretation bias (Mathews, & Mackintosh, 2000; Williams, Blackwell, Mackenzie, Holmes, & Andrews, 2013; Bowler et al., 2012; Woud, Holmes, Postma, Dalgleish, & Mackintosh, 2012).

One concept that might seem contrary to the goals of this experiment is the Set-Point Theory of Happiness. Set-Point Theory postulates that a person's levels of happiness are within a range that is genetically predetermined. Modifying a person's gratitude in a meaningful way may require a person to exceed that range, which challenges the ideas of Set-Point Theory. Although Set-Point Theory argues that an individual's long-term happiness is stable and fluctuates only slightly around predetermined levels (Diener & Diener, 1996; Lykken, 1999), I contend it is also possible that an individual's trait levels of gratitude are based on habit and previous life experiences rather than only genetics. Previous research is unclear how set-point would pertain to the trait of gratitude. How much of a person's level of trait gratitude that can be modified by IBM might be limited to that individual's set-point range. As such, if Set-Point Theory is a major factor determining gratitude, then modifying trait gratitude past the upper limits of a person's set-point range might prove difficult, if not impossible. Although it is not the primary purpose for this research, I believe that this experiment is also a test of the Set-Point Theory, in that the purpose of this research is to modify an individual's trait gratitude levels.

Given the mental and physical health benefits associated with gratitude and the connections between a person's interpretation bias and gratitude, this experiment is designed to examine the potential of modifying an individual's interpretation bias in such a way that will encourage their propensity towards gratitude.

To examine this potential for modifying trait gratitude through IBM, participants in this experiment first took initial assessments to measure their current emotional states, including gratitude, amusement, and joy, as well as other emotions. I also assessed individuals' appraisal tendencies with several measures. The participants were then randomly assigned to one of two groups: positive interpretation bias modification or negative interpretation bias modification.

Following the training phase of the experiment, all participants re-took the assessments used before the training for comparison purposes. Also, I administered a “recognition test” that assesses an individual’s real-time interpretations of benefit situations and has been shown to be positively associated with trait gratitude (Scheibe, Watkins, McCurrach, & Mathews, 2016).

Hypotheses

Based on prior research of Interpretation Bias Modification, Gratitude Modification, as well as current Appraisal Theories, I predicted that participants subjected to the positive interpretation bias training would show higher responses on this recognition test than those in the negative group. Secondly, I predicted that those in the positive, grateful interpretation bias training condition would show a greater increase in benefit-related appraisals than the other training condition. Finally, I predicted that state gratitude would increase to a greater degree in the gratitude interpretation training conditions than the comparison conditions.

Methods

Design and Overview

For my interpretation bias dependent variable, I used a 2x2x2 factorial design with training conditions (positive IBM, negative IBM), the valence of recognition (positive, negative), and type of recognition (targets vs. lures) as my independent variables. The training was a between-subjects manipulation. Valence and type of recognition were within-subjects. The interpretation bias dependent variable was defined as the scenario recognition ratings (see below). For my event appraisals and emotion dependent variables, I used a one-way design with training condition as the independent variable and the relevant pre-training assessment as the covariate.

Participants

For this experiment, 97 student participants were recruited from graduate and undergraduate psychology courses at Eastern Washington University. Participants were recruited using Eastern Washington University's SONA system, which is an online system for research study registration. Student participants were compensated for their time with extra credit in their classes. Participation in this experiment was entirely voluntary, and students were free to excuse themselves from participation at any point during the experiment without penalty. This research was approved by the Eastern Washington University Institutional Review Board (IRB). Student participant data were excluded from analysis if either or both of two conditions were met: If the participant scored 75% or less on the yes/no recognition test that occurred immediately after reading each scenario (described in the Methods section), and/or if the participant did not complete all critical measures of the study. During coding of participant data, it was determined 15 student participants did not meet eligibility requirements for data consideration and were thereby excluded from the data analysis. 4 participants were excluded due to scoring at or below 75% on the yes/no recognition test, and 11 were excluded for not completing the critical measures of the study. Following these exclusions, the total number of student participants used in this study was 82.

Materials

- Consent form (contained in the appendix).
- Positive and Negative Affect Schedule (PANAS). The PANAS consists of a 20-item questionnaire consisting of words that describe different feelings and emotions, with items such as; interested, upset, and excited, in which participants rank each item on a 5-point Likert scale indicating to what extent they currently feel that way (Watson, Clark, &

Tellegen, 1988). I used a modified form of the PANAS, which included items from the Gratitude Adjectives Scale (GAS), items related to state joy (Watkins, Emmons, Greaves, & Bell, 2017), and items related to amusement (“amused” and “entertained”). The PANAS was primarily used to measure the dependent variable of state gratitude. Both clinical and non-clinical studies have found the PANAS to be a reliable and valid tool in the assessment of positive and negative affect (Watson, et al., 1988).

- Recalling Benefits questionnaire (described in the Procedure section and contained in the appendix).
- Computer interface with keyboard and mouse.
- 80 Interpretation Bias Modification (IBM) training scenarios (described with examples in the Procedure section). These scenarios are contained in the appendix.
- Recognition Test (Scheibe et al., 2016, described with examples in the Procedure section, and included in the appendix). This measure was developed to assess benefit-related interpretation biases that are known to be associated with trait gratitude. This measure served as one of the measures of interpretation bias.
- Additional survey questionnaires including demographics (included in appendix)

Procedure

Student participants began by reading and signing the consent form, then taking an assessment of their current emotional state; this assessment included gratitude as well as additional positive and negative emotions using the PANAS. Following this assessment, student participants were asked to recall two different recent interpersonal benefits from the past two weeks and write these benefits on the Recalling Benefits questionnaire. Using a coin toss randomizer, they were then randomly assigned to evaluate one of these two benefits using a

standard Likert scale (with 1 = none to 7 = very) on: the cost to the benefactor, the altruistic motives of the benefactor, the personal value that of that benefit, how much the benefit meets or exceeds their expectations, the obligations of the benefactor, gratefulness for the benefit, and satisfaction of the benefit.

Following these initial assessments, students were then randomly assigned to one of two different conditions; positive IBM training, or negative IBM training. For each of the two training conditions, student participants were asked to imagine themselves in 80 ambiguous benefit scenarios presented on a computer screen set to display one scenario at a time. Each benefit scenario contained some ambiguity until the last word of the scenario. The last word clarified the ambiguity of the scenario in either a positive (grateful) or a negative (ungrateful) manner. This last word was missing two letters, and the student participant was required to generate and type in the first of the two missing letters. If the participant typed the correct letter, they were given the appropriate feedback, and the full word appeared on the screen. If they chose an incorrect response, they were told their response was incorrect, and the program did not continue to the next scenario until they chose the correct letter. In the positive training condition, the final word would positively clarify the scenario, and in the negative training condition, this final word would negatively clarify the scenario. Participants received immediate feedback on the accuracy of their responses. The following is one example of these scenarios:

You have missed a day of class, and when you return to class, an acquaintance copied their notes of the previous lecture. Your professor posts all their PowerPoint slides online, so you wonder why your acquaintance copied their notes for you. In the end you feel that your friends assistance was (c__siderate/p__ntless) [considerate/pointless].

Following the training portion, all participants took several outcome measures. Student participants emotional state was again assessed including gratitude, and each participant was asked to report on the second recent interpersonal benefit (the one not previously reported on) in terms of its value, the cost to the benefactor, the altruistic motives of the benefactor, how much the benefit meets or exceeds their expectations, to what extent the benefactor was meeting or exceeding their obligations, gratefulness for the benefit, and satisfaction of the benefit. These measures were taken by paper and pencil using a standard Likert scale in the same manner as they were during the initial assessment. Following these measures, students took a “recognition test” that has been shown to be a valid measure of participant's real-time interpretations of benefit scenarios (Scheibe et al., 2016). In this “recognition test,” student participants were presented with 20 different benefit scenarios on paper and asked a simple (yes/no), comprehension question after reading each scenario. These comprehension questions were presented at the same time and on the same page as the scenario. The following is a sample of these scenarios:

Flat Tire:

It is snowing out, and after grocery shopping, you go out to your car to find that one of your tires is flat. This is a new car for you, so you have never changed a tire on this car, and you don't really know how to change it. Someone who has a similar car helps you put on your spare tire. After changing the tire, your helper looks like they would like to say something to you, and you think, “Why would this person help me?”

Have you owned this car for a long time? Yes No

Participants who incorrectly answered 5 or more of these 20 yes/no comprehension questions were screened out of inclusion in this study, and their data for all measures were removed prior

to data analysis. All participants, regardless of their answers, had the paper containing these scenarios removed from their view prior to continuing.

Participants were then given a test where they reported their recognition of four statements related to each of the 20 scenarios. Two of these statements are reasonable interpretations of each scenario (one positive one negative), while two are not reasonable interpretations of each scenario (also one positive and one negative), which are designed to serve as lures allowing control for response bias. The following instructions were given for the recognition test:

Please look at these sentences and rate how similar in meaning they are to one of the descriptions you saw earlier. None of these sentences is worded identically to any that you have seen, but any number of them (1, 2, 3, or 4) could be related to the description you saw earlier. Please rate each sentence independently from all the others, for its similarity in meaning to the original you have already seen.

Following is a sample item of this recognition assessment:

Flat Tire:

The person helped you change your tire because they saw that you really needed help.

1	2	3	4
very different in	different in	similar in	very similar in
meaning	meaning	meaning	meaning

The person helped you change your tire because they needed your help as well.

1	2	3	4
very different in	different in	similar in	very similar in
meaning	meaning	meaning	meaning

The person pulled up beside your car and they drove you to the tire store.

1	2	3	4
very different in	different in	similar in	very similar in
meaning	meaning	meaning	meaning

As you try to fix your tire, you found that your spare tire was flat as well.

1	2	3	4
very different in	different in	similar in	very similar in
meaning	meaning	meaning	meaning

Note that two of the above statements are reasonable interpretations from the scenario (one positive, one negative), although neither was explicitly included in the scenario. Two more statements are not reasonable interpretations from the scenario and thus are included as lures to control for general response bias. Because trait gratitude has been shown to be positively associated with responses on this “recognition test” after controlling for response bias, this test was used as a measure for the dependent variable (T2 trait gratitude).

Following the recognition test, student participants were asked if they would complete a few additional survey questionnaires, including a demographic questionnaire (included in appendix section), and were given credit points through SONA for their participation in the study.

Results

To ensure accurate data analysis, student participant data were excluded from analysis if either or both of two conditions were met: If the participant scored 75% or less on the recognition questions that followed immediately after each scenario was presented, and/or if the participant did not complete all critical measures of the study. Following these exclusions, the total number of student participants data used in this study was 82.

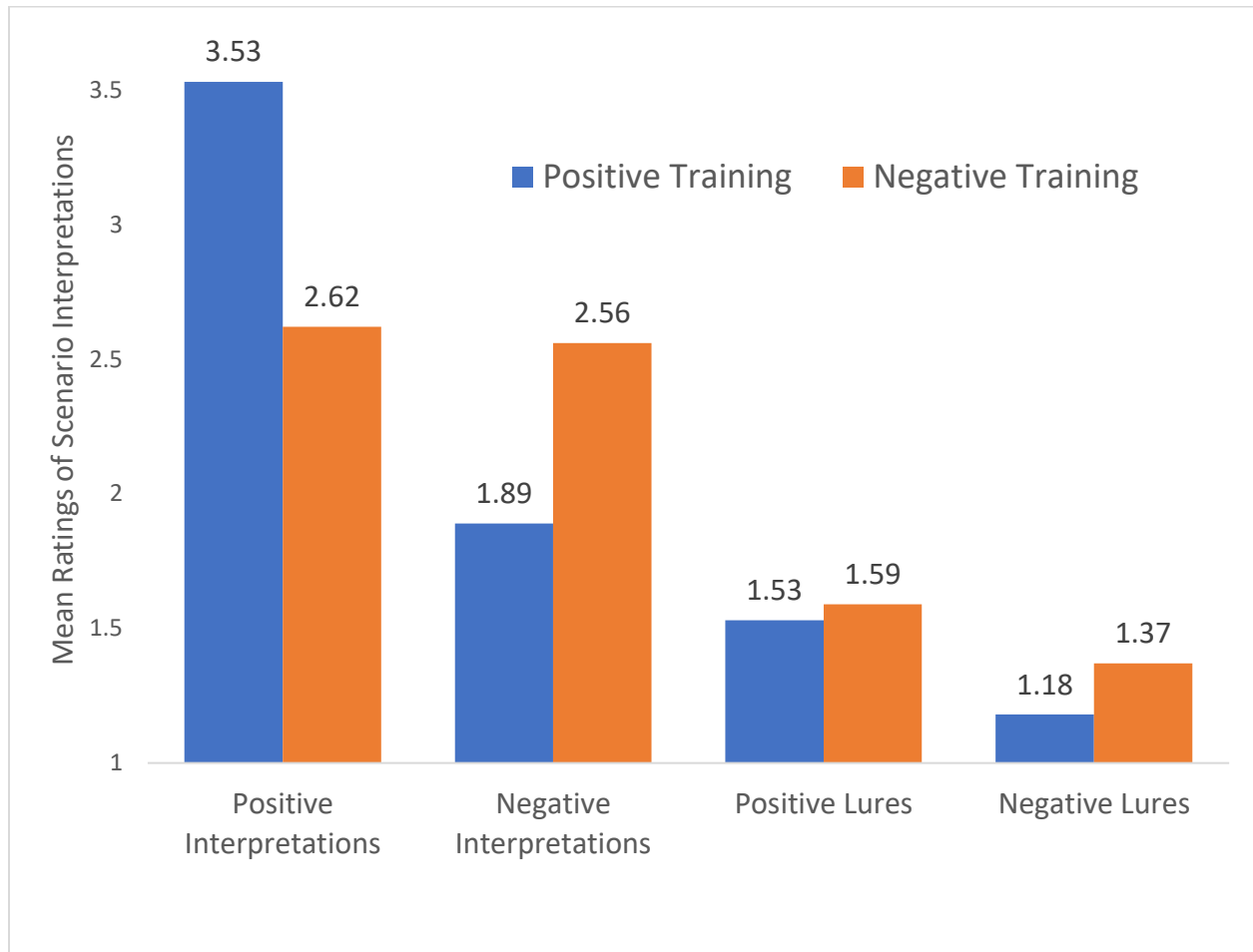
Interpretation Bias Analysis

Data were examined using a 3-factor ANOVA general linear model of analysis looking at: valence of interpretation (positive, negative), training condition (positive, negative), and recognition (targets, lures). Valence and recognition were both within-subject factors, and condition was a between-subject factor. The results of this 3-factor interaction were found to be significant, $F(1,80) = 61.715, p < .001$. As seen in Figure 1, the pattern of means that resulted in this interaction was as predicted: positive (grateful) training resulted in a significantly larger positive interpretation bias than negative training, and this bias was much more pronounced for the targets than the lures. A main effect for valence was found, $F(1,80) = 159.499, p < .001$ such that positive statements were endorsed more frequently than negative statements. A main effect for recognition was found ($F(1,80) = 724.429, p < .001$). This effect was due to participants being more likely to endorse the realistic interpretations than the lures, which essentially served as a manipulation check for this variable.

Table 1. Condition x Valence x Recognition table of means.

Condition	Valence	Recognition	Mean	Std. Error
Positive	Positive	Target	3.528	.070
Positive	Positive	Lures	1.534	.074
Positive	Negative	Target	1.892	.073
Positive	Negative	Lures	1.183	.051
Negative	Positive	Target	2.625	.076
Negative	Positive	Lures	1.586	.079
Negative	Negative	Target	2.558	.079
Negative	Negative	Lures	1.367	.055

Table 1. $F(1,80) = 61.715, p < .001, \text{partial } \eta^2 = .435$.

Figure 1**Means of Recognition Targets and Lures****Post-training Appraisals of Recalled Benefits Analyses**

Student participants were asked to evaluate two benefits from their own life (described in the methods section) based on: cost, altruism, value, expectations, obligations, gratefulness, and satisfaction. The results of this were analyzed using an ANOVA with the pre-training assessment as a covariate for the post-training assessment. The results of this analysis are as follows;

The cost of the benefit to the benefactor showed no significant change at $F(1,81) = 1.386$, $p = .243$, *partial Eta squared* = .017, and the pattern of means was the opposite of what one would expect had the positive training resulted in appraisals of greater cost to the benefactor.

The altruistic motive of the benefactor was found to be greater for the positive than negative training, as predicted, $F(1,81) = 5.240, p = .025$. As shown in Figure 2, means were as expected; participants in the positive training condition provided higher appraisals of the benefactor than those in negative training.

Figure 2. The altruistic motive of the benefactor.

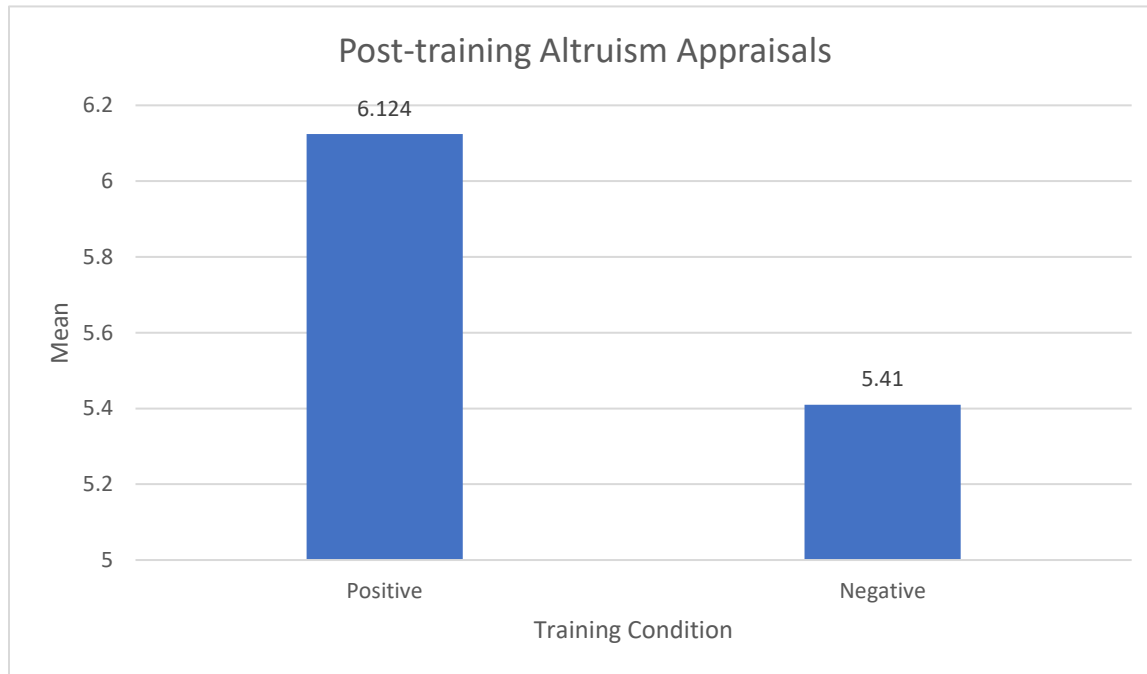


Figure 2. $F(1,81) = 5.240, p = .025, \text{partial } \eta^2 = .062$.

The value of the benefit to the participant also showed that positive training resulted in significantly greater appraised value than negative training, $F(1,81) = 6.864, p = .011$. This result is shown in Figure 3.

Figure 3. Value of the benefit.

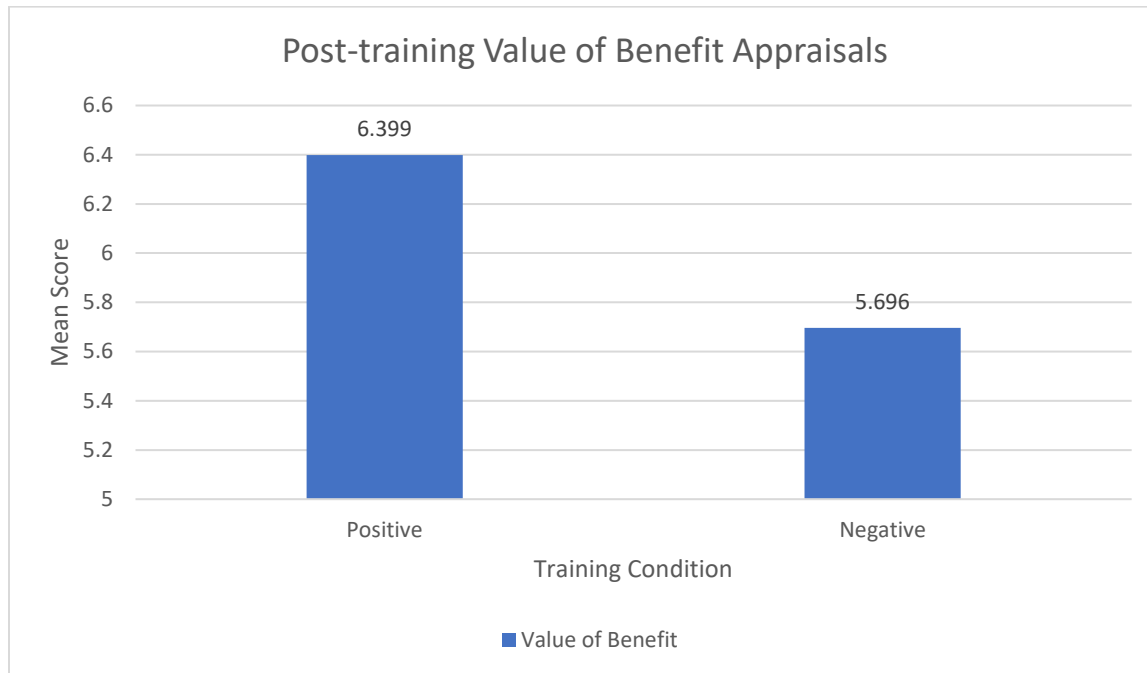


Figure 3. $F(1,81) = 6.864$, $p = .011$, *partial Eta squared* = .080.

Extent their expectations were met or exceeded by the benefit was found to be non-significant but shows a marginal trend in the expected direction $F(1,81) = 2.923$, $p = .091$. This result is shown in Figure 4.

Figure 4. Extent, their expectations were met or exceeded by the benefit.

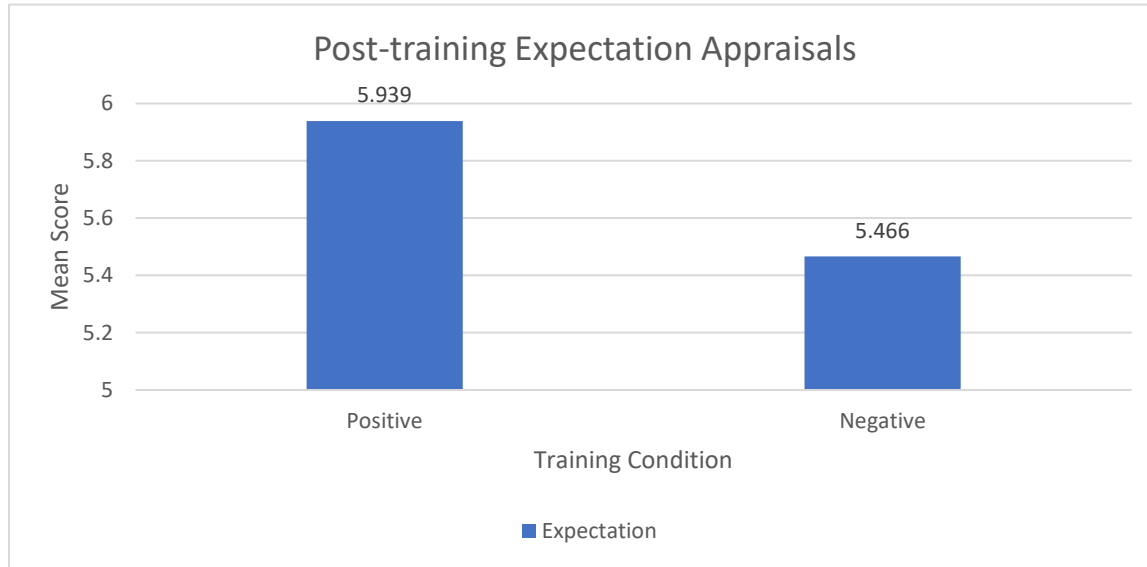


Figure 4. $F(1,81) = 2.923$, $p = .091$, *partial Eta squared* = .036.

The extent that the benefactor was meeting or exceeding their obligations also showed a non-significant marginal trend in the expected direction $F(1,81) = 3.463$, $p = .066$.

Figure 5. Extent the benefactor was meeting or exceeding their obligations.

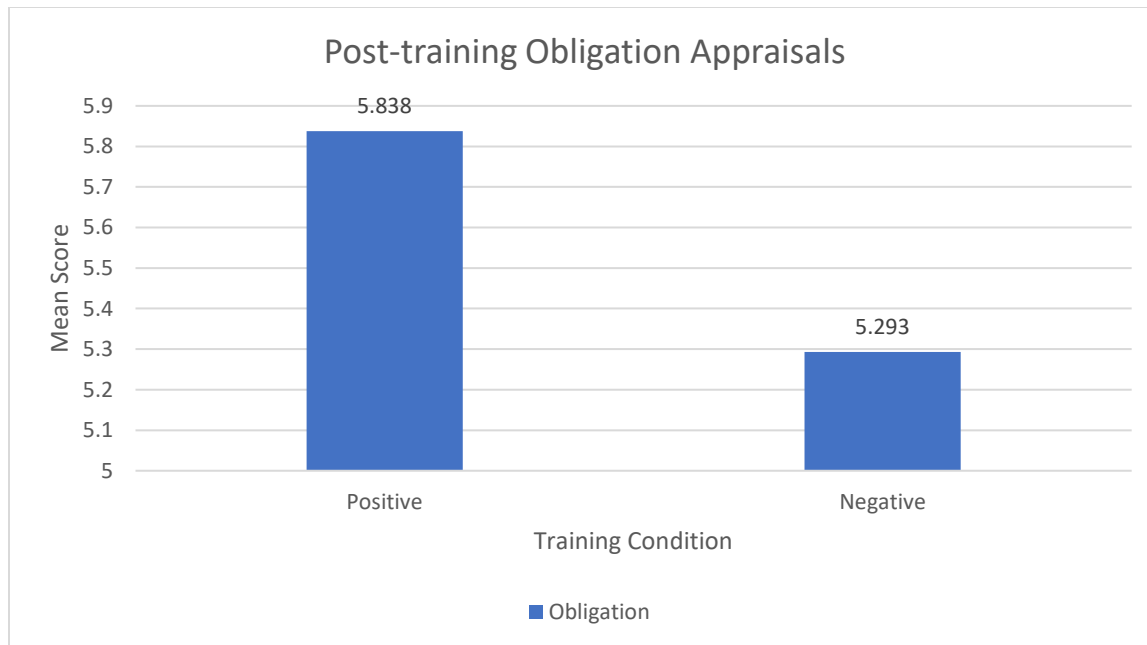


Figure 5. $F(1,81) = 3.463$, $p = .066$, *partial Eta squared* = .042.

Participants' gratitude for the benefit showed a non-significant marginal trend, again in the expected direction $F(1,81) = 2.600, p = .111$.

Figure 6. Gratitude for the benefit.

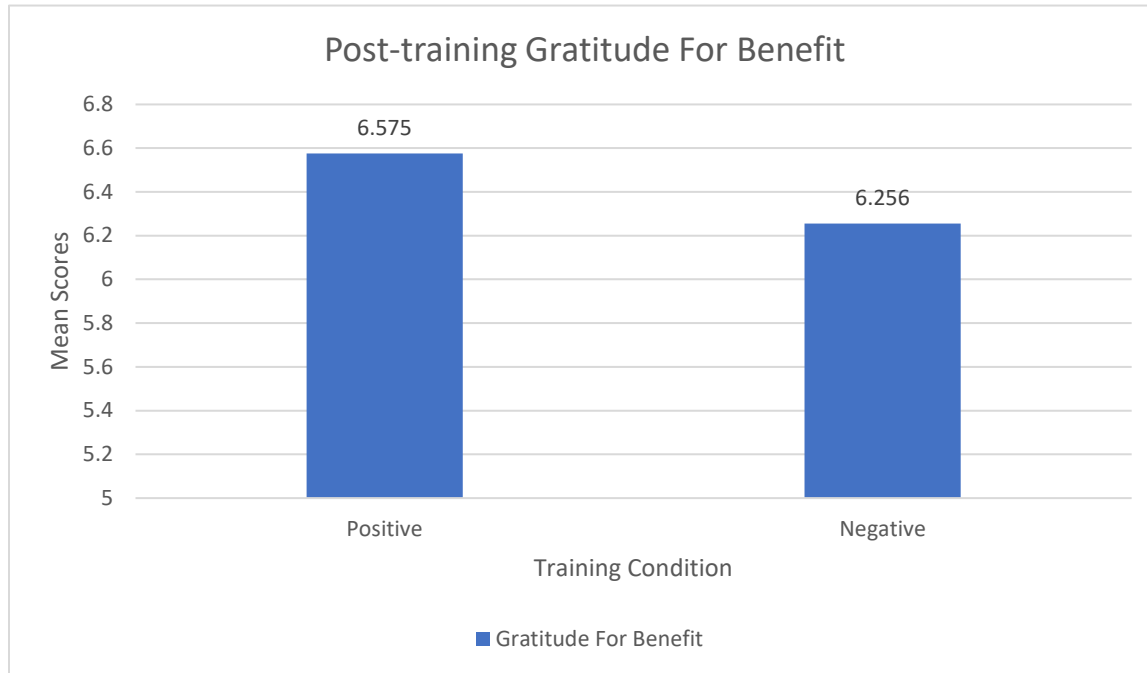


Figure 6. $F(1,81) = 2.600, p = .111, \text{partial } \eta^2 = .032$.

The satisfaction for the benefit was found to be non-significant $F(1,81) = 1.931, p = .169$.

Figure 7. The satisfaction for the benefit.

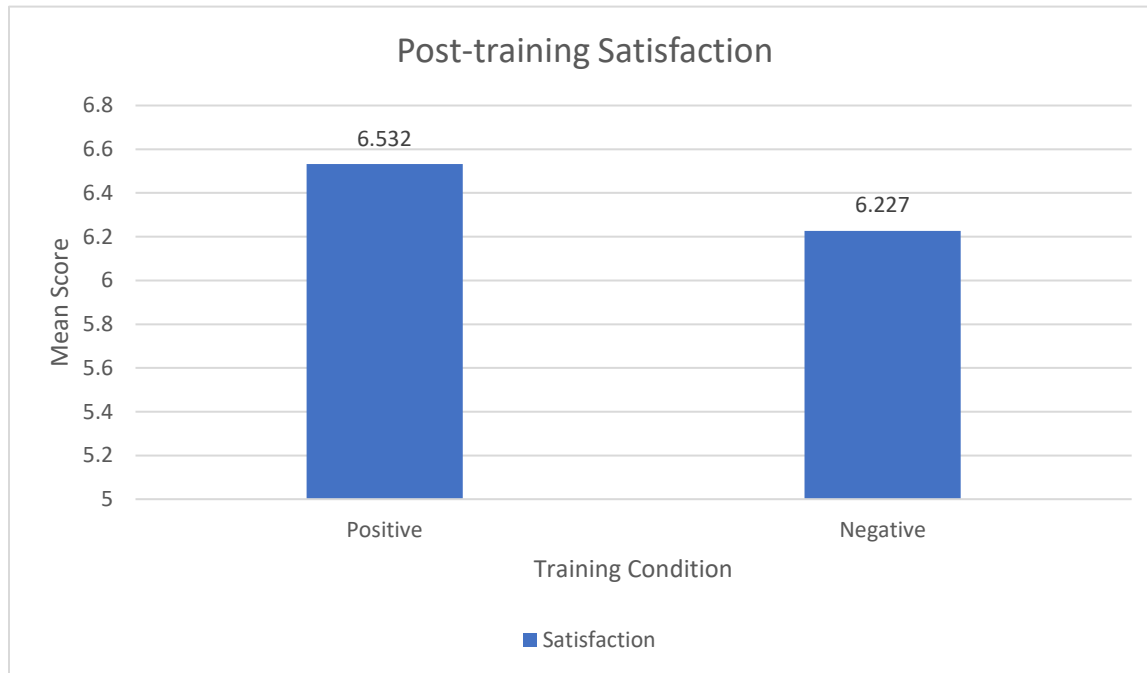
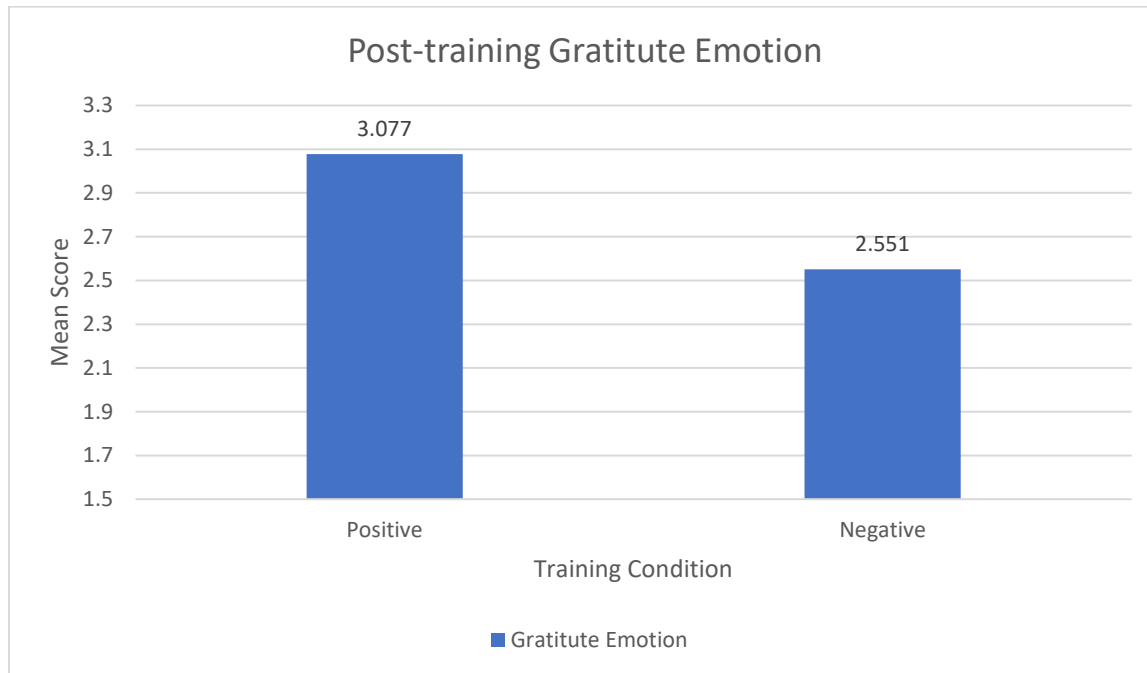


Figure 7. $F(1,81) = 1.931$, $p = .169$, *partial Eta squared* = .024.

Emotion Analyses

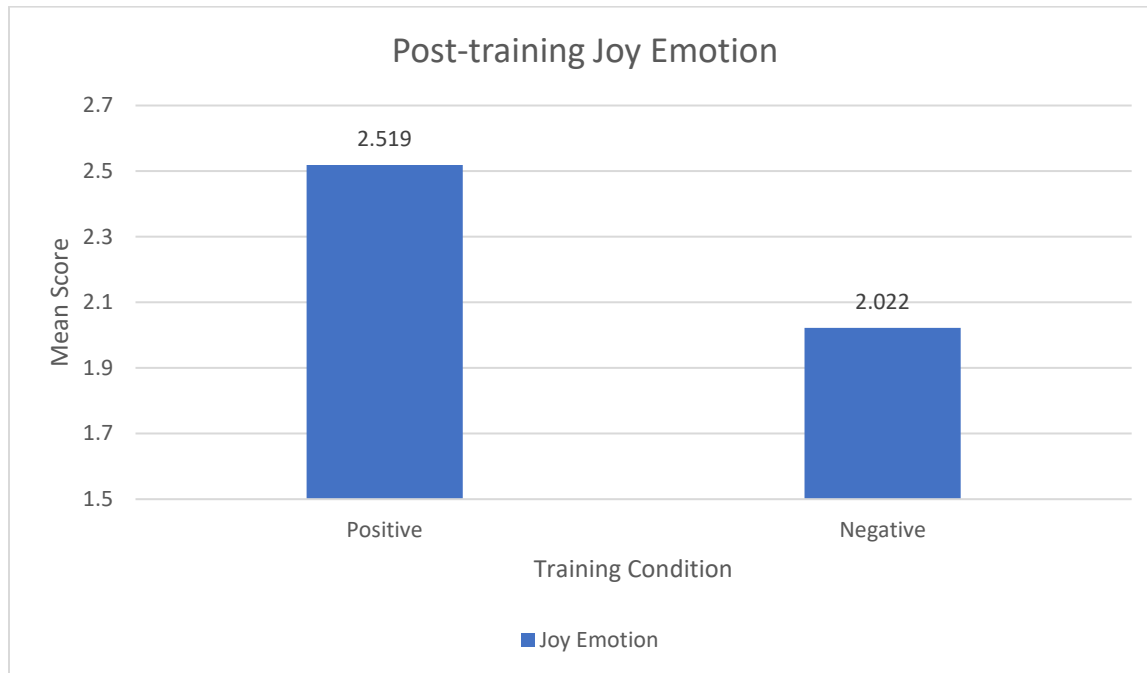
Participant emotions were measured using a modified PANAS with additional questions for gratitude and joy prior to and after the training. The results of these measures were analyzed using an ANOVA with the pre-training measure as a covariate for the post-training measure. For gratitude, I found a significant change following the training $F(1,81) = 5.643$, $p = .026$. This effect was due to those in the positive training reporting significantly more gratitude than those in the negative training. This result is illustrated in Figure 8.

Figure 8. Gratitude emotion.



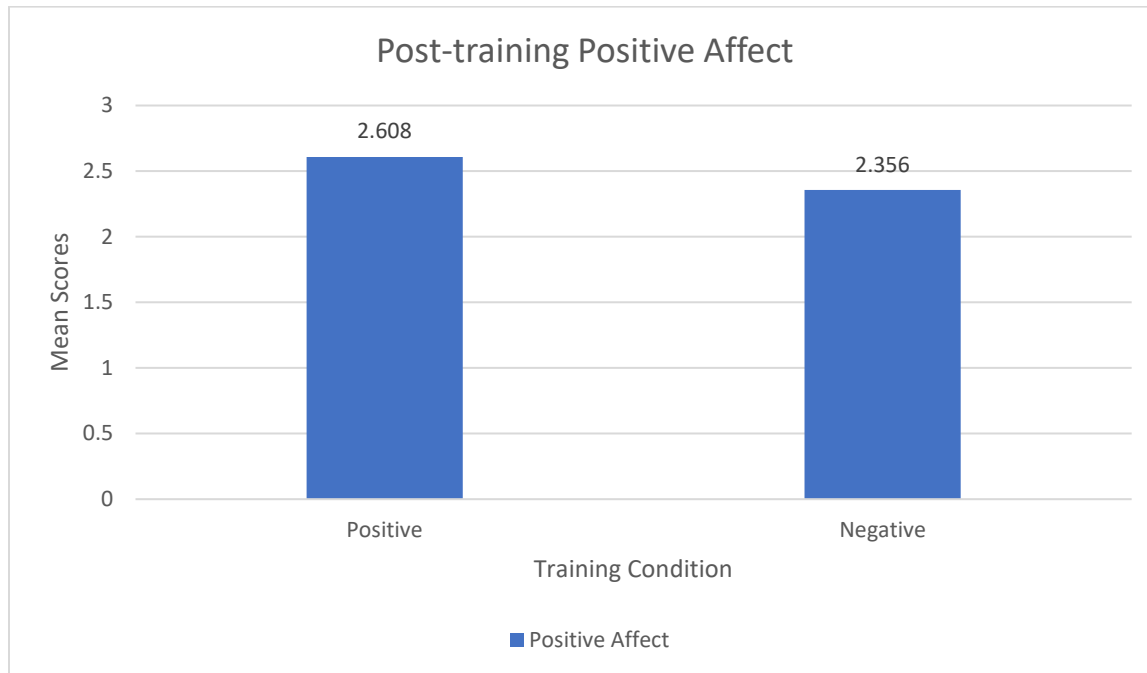
$F(1,81) = 5.643, p = .026, \text{partial Eta squared} = .061$.

The joy measure showed significant results at $F(1,81) = 6.348, p = .014$ (see Figure 9). Thus, positive training resulted in greater gratitude and joy, compared to the negative training condition.

Figure 9. Joy emotion

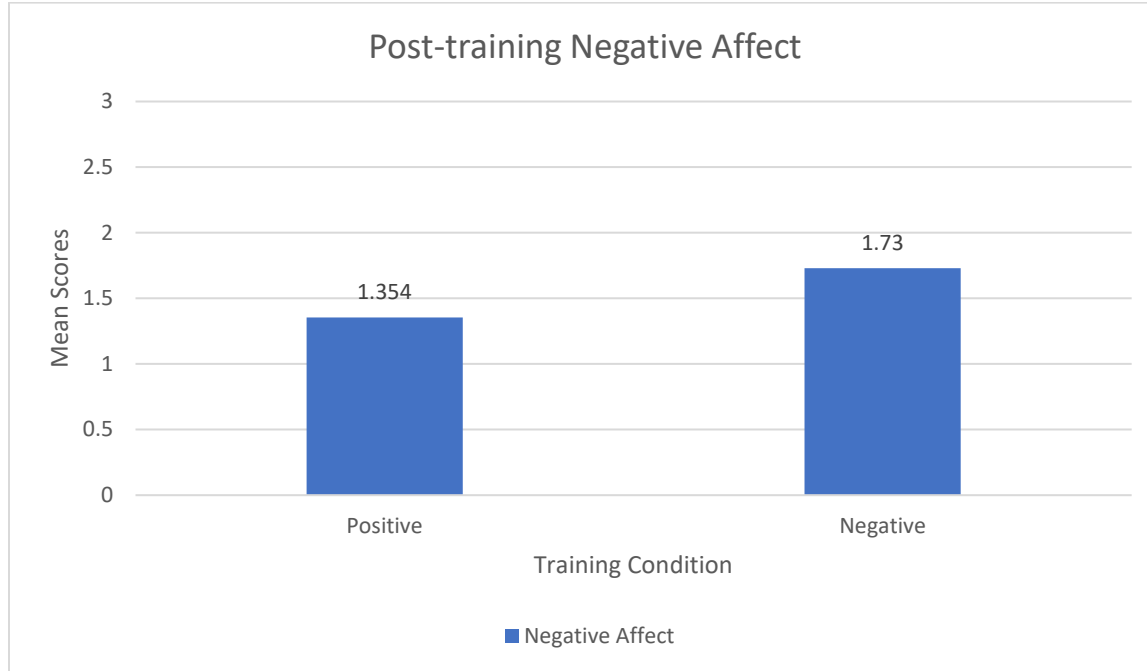
$F(1,81) = 6.348, p = .014, \text{partial Eta squared} = .074.$

However, training did not significantly affect positive affect more generally, $F(1,81) = 2.753, p = .101$, although, as seen in Figure 10, means were in the expected direction.

Figure 10. Positive Affect

$F(1,81) = 2.753, p = .101, \text{partial Eta squared} = .034.$

Negative affect was significantly modified at $F(1,81) = 9.798, p = .002$. As seen in Figure 11, this effect was due to positive training showing a greater decline in negative affect than the negative training.

Figure 11. Negative Affect

$F(1,81) = 9.798, p = .002, \text{partial Eta squared} = .110.$

Discussion

Apart from a few isolationists and people living on a deserted island, most of us will encounter situations daily that we could describe as beneficial. The way in which we assess and evaluate these little moments in our lives may have a profound impact on how we view ourselves and the world around us. One of the ways that we assess each of these moments is in terms of gratitude.

The objective of this study was to investigate whether positive benefit interpretations can be trained and whether this training would result in enhanced gratitude. To accomplish this goal, I designed this research to see if I could modify a person's view of ambiguous benefit situations in such a way that increased their chances of viewing these situations from a grateful perspective.

This was done by using a method of interpretation bias modification. My results suggested that, indeed, interpretation biases important to gratitude can be modified, and modifying these biases resulted in greater gratitude.

If somebody says something or does something beneficial for you or maybe just stays out of the way, we may see this as a situation to be grateful for. Some situations that we encounter in our daily lives may be more prone to provoke a gratitude response than others. It is common to see gratitude in situations where we are the obvious beneficiary. For instance, when at the grocery store, if a person in line in front of you lets you go ahead of them because you have fewer items or appear to be in a hurry, it is easy to feel grateful, however not all situations that we encounter in our daily lives are as clear cut and obvious as this one. The English language may play a factor in this, for instance when a coworker says to you “nice job” you may feel grateful for the compliment, you may wonder if what he or she is saying was sarcasm, or maybe even feel put down thinking in the back your mind that “even a monkey do that job” and this person is expressing pride in the fact that I was able to accomplish such a medial task, and so one might respond: “how dare they.”

How about when your boss decides to take everybody in the company out for a nice dinner to say “thank you” for everybody’s hard work. Are you thinking to yourself “Wow I have a wonderful boss and I’m really grateful to be working for this company,” are you thinking “Does she have an ulterior motive?”, or are you thinking “If my boss has all this money to burn why can’t I get that pay raise that I know I deserve?” Perhaps you’re thinking to yourself that you would be grateful in all of those situations, but what about when the police officer pulls you over for speeding; Are you truly grateful for the ticket that he is writing you because that ticket may have just saved your life or the life of someone else on the road? These are just some

examples of how situations could be viewed from various perspectives. Some of these perspectives—or patterns of interpretation—might promote grateful responses, but some might not. As you are reading this paper, it is quite possible that you may be able to think of several situations you encounter daily, each of which can be viewed from different perspectives. Many of these situations could be viewed from a perspective of gratitude. As described and cited in the introduction section of this paper, prior research in the field of gratitude had shown that a person's ability and propensity to view situations in a grateful manner is positively correlated with their own health and sense of well-being.

Based on prior research of Interpretation Bias Modification (IBM), theories of trait gratitude, as well as current Appraisal Theories, I predicted that trait gratitude could be modified using IBM. I further predicted that participants subjected to the positive interpretation bias training would show higher gratitude-related interpretations as measured by my recognition test than those in the negative training group.

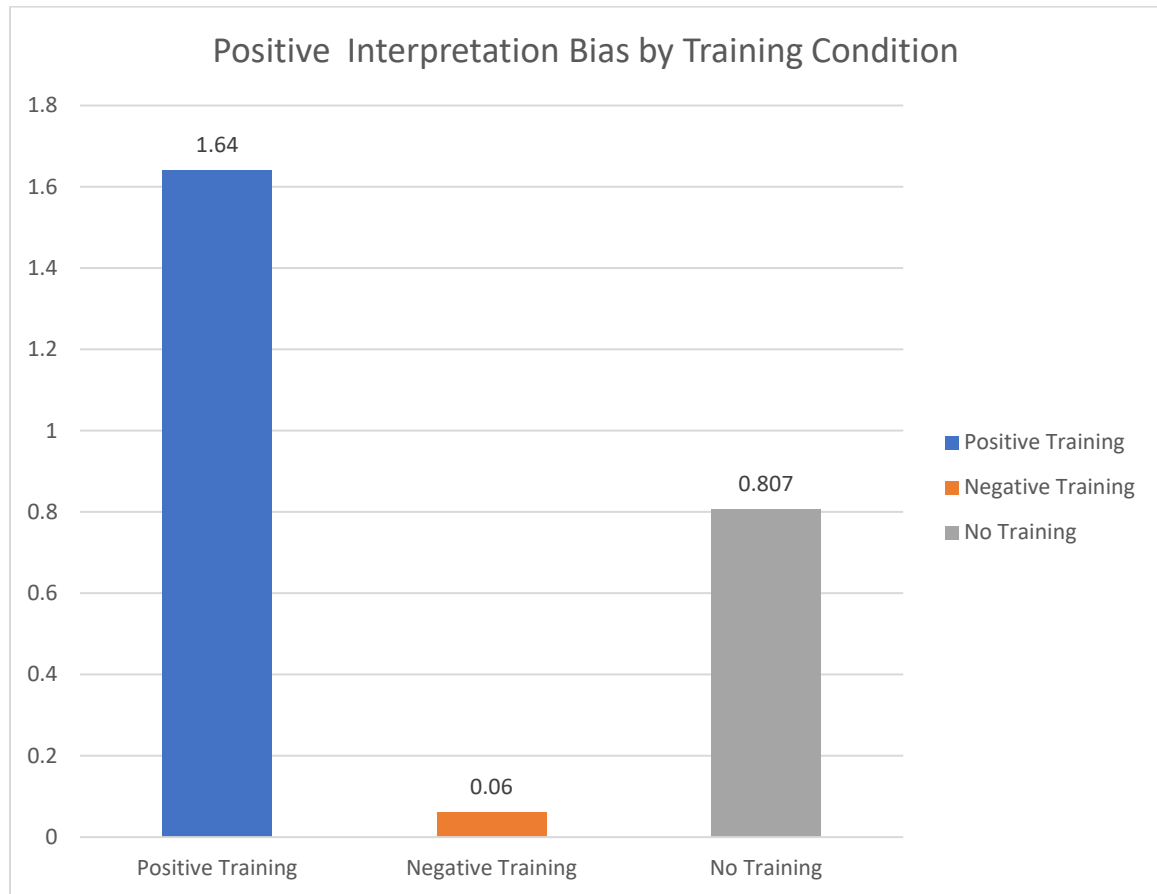
The findings of this experiment were not only in line with my original hypothesis that trait gratitude can be modified through IBM but exceeded my expectations by achieving statistically significant findings in several areas from a relatively small sample size of participants.

The primary dependent variable for this experiment came from the recognition test the participants took following their interpretation bias modification training. This recognition test was designed to measure real-time interpretations of benefit scenarios and was analyzed using a three-factor ANOVA with one factor being the type or valence of interpretation (positive, negative), the second factor was which training condition the participant was in (positive, negative), and the third factor was whether the recognition statements were realistic

interpretations of the scenario (targets) or were not realistic interpretations (lures). Based on this three-way analysis of the dependent variable, I found that interpretations important to trait gratitude were modified with a statistically significant result. While this was an exciting finding, it is important to note that this study did not include a control group but rather only a positive training group and a negative training group. Because of this lack of having a control group, it is impossible to unambiguously conclude whether those in the negative training condition were trained to view ambiguous situations more negatively, the positive training to view them more positively, or some combination of both. Despite this limitation, I was able to statistically conclude that interpretations important to dispositional gratitude can be modified with IBM. Furthermore, when comparing these results with those from a former study that did not include training (Scheibe et al., 2016, see Figure 12), it does appear that the changes were from a combination of positive training increasing and negative training decreasing the grateful interpretation bias.

Although my study did not have a control group, when I combine the data from Scheibe et al. (2016) no training group with the data of my studies positive and negative training groups, the combined effect of positive training increasing and negative training decreasing the grateful interpretation bias becomes clear (see Figure 12).

Figure 12. Comparing Current Interpretation Bias Results with Scheibe et al., 2016



Note: The “No Training” condition is from Scheibe et al. (2016).

Benefit Appraisals

In addition to the recognition test, my study also measured participants' appraisals of recall benefits before and after interpretation bias modification training. In this appraisal of recalled benefits, I asked participants to rate each benefit on the cost to the benefactor, to what extent this benefit was motivated by altruistic versus ulterior motives on the part of the benefactor, how valuable the benefit was, if the benefit met or exceeded their expectations, if it met or exceeded the benefactor's obligations, how grateful they were for the benefit, and how satisfied they were with the benefit. My findings from this measurement were mostly in line with my hypotheses. For the first part of the measure regarding the cost of the benefit, I found that

IBM had no significant influence on how subjects rated the cost to the benefactor. This finding is not surprising since, in many cases, the cost is a fixed condition. For instance, a four-dollar cup of coffee is a four-dollar cup of coffee, regardless of how grateful you are or how you view the situation. Moreover, in recent research, cost has not been shown to be a consistent antecedent appraisal of gratitude (e.g., McLaughlin, 2018), and my findings continue to support this. Finally, observation of the training scenarios reveals that cost to the benefactor was not emphasized. Thus, the finding that IBM training did not result in changes to cost appraisals is not surprising, and future research should continue to investigate whether the cost appraisal is indeed important to gratitude responses.

The second question regarding altruism asked participants, “To what extent do you think this benefit was intended by this person to be altruistic (intended for your benefit) versus given with ulterior or selfish motives?” For this appraisal, I did find a significant effect of $p = .025$. This effect was due to participants in the negative training condition viewing the benefit less altruistically motivated than those in the positive training condition. This is an interesting and important finding since it could indicate that when we train people to be more grateful, we are also training them towards seeing others in a more positive light.

The appraisal of the value of the benefit was also found to be significantly enhanced as a result of positive interpretation training. Because recent research has shown that value appraisals of benefits primarily drive gratitude responses (e.g., McLaughlin, 2018; Watkins, Wood, & Shields, 2016), this is an important finding. In sum, I found that the two most important appraisals to responses of gratitude could be modified through IBM.

An interesting finding was that gratitude for the benefit was found to be non-significant at $p=.111$. Examining this result graphically (Figure 6 in the results section), there was a trend in

the predicted direction. It appears that those in the positive training group showed a higher level of gratitude when appraising their own recalled benefits than those in the negative training group. Again, these findings did not reach a level of significance, so a conclusion cannot be made from these results. Given that the mean scores in both the positive and negative training groups were near the top end of the seven-point Likert scale ($M = 6.575$, and 6.256 respectively), it is possible that gratitude for the benefit suffered from a ceiling effect that prevented a statistically significant finding. It is also possible that when I asked participants to recall benefits that occurred to them over the past week, the benefits were too strong to be affected by their IBM training.

Study Limitations

One major limitation of this study was by design. For this study, I randomly assigned subjects to either a positive modification group or a negative modification group. This study did not use a no-training control group. This limitation prevents clear conclusions from being made about the direction of change, i.e., did I modify the positive group to view benefit situations more positively, or the negative training group to view those situations more negatively, or was it a combination of the two? While this limitation impacts these further directional conclusions, it does not impact the theoretical question this research sought to answer. This research was designed to answer the question, can interpretation biases important to gratitude be modified using IBM? My results suggest that the answer to this question is yes, and a control group was not needed in order to answer this question. The results of this study concluded with statistically significant results that interpretation biases important to dispositional gratitude can be modified using IBM.

An additional limitation of this study comes from practical limitations in conducting the research study. This study was conducted at Eastern Washington University, using participants taking psychology courses. Most of the participants in this study were between the ages of 18 to 25 with major areas of study in the field of psychology and included students in undergraduate and graduate programs. For the purpose of consent, it was a requirement of this study that participants be at least 18 years of age. Participants were also rewarded for their participation by receiving extra credit points in their psychology courses. Because of this study being conducted in a live face-to-face setting, all participants were geographically located around Cheney, Washington. Student participants had to select from available time slots within a Monday through Friday 8am to 5pm schedule. This study required participants to be able to read, write, verbally communicate in English, and required basic computer operations.

Because most of the participants were between the ages of 18 to 25 and no participant was below the age of 18, it would not be appropriate to generalize these findings to include children or adolescents, nor would it be appropriate to assume these findings would apply to older ages. It is possible that the culmination of a person's life experiences (or lack thereof) may have an impact on a person's ability to modify their dispositional gratitude, and this possibility was not examined as a focus of this research.

As the student participants were recruited specifically from the psychology department, it is also possible that these students may have a different level of trait gratitude than what would be seen within the general population, or even with students from other departments at the University. Because no other departments or community members were involved in this study, it is impossible to determine the true generalizability of this research outside of this select population. However, I believe that psychology students may have chosen their area of study

because of already possessing a greater than average disposition to gratitude as they are pursuing a helping profession. Another concern might be that psychology students would be aware that grateful interpretations were being trained, and thus the results might be due in part to demand characteristics. However, participants were asked about the interpretation bias task, and no participant reported that they thought their gratitude thinking patterns were being trained. By granting extra credit to participants, it is possible this had a positive impact on their state gratitude at the time of participation. If these assumptions are correct, then it could be reasoned that an already heightened level of gratitude would be more difficult to increase, and therefore IBM should be even more effective within the general population. Also, because credit was awarded to those in both training conditions, I would expect gratitude to increase in both conditions, which it did not.

Future Direction

Further studies should be conducted to replicate and expand on the findings of this research. This study found significant results confirming my hypotheses, but as with any research, it needs to be replicated. This study did not use a control group as it was not necessary for confirming my hypothesis; however, it may be beneficial to run a similar study with the use of a control group to provide more definitive conclusions in terms of the direction of change. A control group should provide answers to these questions.

This study examined several emotions in addition to gratitude, and while not all results were found to be significant, all the emotions did follow similar patterns of change. It was clear from the results that for this sample population, the participants in the positive training condition indicated increased positive emotions (gratitude, joy, and positive affect) when compared to those in the negative training condition. Concurrently, participants in the negative training

condition showed significantly more negative affect than those in positive training. From this, it would prompt the question of distinctiveness: was the positive training actually training interpretations specific to gratitude, or was it simply training positive interpretations more generally? It may be important to continue research around the question, to what extent are these emotions distinctive emotions, or how much does one positive emotion drive others? In this way, the IBM paradigm may help develop a taxonomy of positive emotions.

Another related question that further research is needed in order to answer is how this works in the real world. It is critical for any practical use of this research to know whether modifying a person's interpretation biases important to gratitude will influence a person's social interactions. Studies have established a clear correlation between gratitude and prosocial behaviors (e.g., Ma, Tunney, & Ferguson, 2017), but research is still needed to determine if the modifications to interpretation bias will have the same prosocial connections. One possible method for evaluating this would be with a measure of prosocial interaction like the one done in a study by Bartlett et al. (2012) following the IBM training.

Finally, research should be conducted to determine the permanence of change. This research did not follow participants after their participation in the study, and it would be beneficial to know how long the interpretation bias modification lasts.

Potential Theoretical Implications

This research helps us understand the causal relationship between interpretation-bias and gratitude. In addition, the results of this study contribute to research in the appraisal theory. According to appraisal theory, appraisals can appear as consequences as well as antecedents for emotions (Frijda, 1993; Frijda, & Zeelenberg, 2001). Because appraisals can also result from emotions, most appraisal research to date cannot definitively determine that the appraisals are

causing the emotional response. The design of this research and the results obtained help to determine that these appraisals can cause changes in emotion. The training was able to change interpretation biases important to gratitude, and thus cause changes in emotion, supporting the theory that antecedent cognitive appraisals are important causes of gratitude.

The findings from this study could have implications not only for further research studies but also for use in several practical situations. The IBM scenarios in this study were presented to participants on a computer screen with a keyboard interface. Therefore, it could be possible to develop a game from this or perhaps a cell phone app that people could use for self-help. Parents could then use this IBM method for helping their children; counselors and therapists could use this in session or as a homework assignment for their clients; inpatient psychiatric facilities could incorporate this into their programs. IBM gratitude training could even save lives since gratitude has been shown to help buffer the effects of hopelessness and depressive symptoms, two primary risk factors for suicide ideation, and suicide behaviors (Kleiman, Adams, Kashdan, & Riskind, 2013). Regardless of how we use IBM in the future, its implications for improving our lives and sense of well-being are promising.

This study has generated some compelling results with promising implications for enhancing gratitude and well-being. It is my hope that this study is replicated and expanded upon in future research. As outlined throughout this paper, increased trait gratitude can lead to multiple psychological and physical benefits (Jackowska, 2016; Watkins, 2014). Provided that future research on IBM finds similar results with this study, I hope that positive interpretation bias modification can become a new method for enhancing well-being. With the correlations noted between gratitude and suicide prevention (Krysinska, 2018), this research may even save a life someday. It had been said that “Gratitude is a quality like electricity: it must be produced,

projected and consumed to exist at all” (Faulkner & Garrett, 1994, p.575). My study found that, like electricity, a person’s propensity for gratitude can also be modified.

References

- Bartlett, M. Y., Condon, P., Cruz, J., Baumann, J., & Desteno, D. (2012). Gratitude: Prompting behaviours that build relationships. *Cognition and Emotion*, 26, 2–13.
- Beck, A. T. (1976). *Cognitive therapy and the emotional disorders*. Oxford, England: International Universities Press.
- Beck, A. T., & Emery, G. (1985). *Anxiety disorder and phobias: A cognitive perspective*. New York: Basic Books.
- Bowler, J. O., Mackintosh, B., Dunn, B. D., Mathews, A., Dalgleish, T., & Hoppitt, L. (2012). A comparison of cognitive bias modification for interpretation and computerized cognitive behavior therapy: Effects on anxiety, depression, attentional control, and interpretive bias. *Journal of Consulting and Clinical Psychology*, 1021-1033.
- Calvo, M. G., & Castillo, M. D. (1997). Mood congruent bias in interpretation of ambiguity: Strategic processes and temporary activation. *Quarterly Journal of Experimental Psychology*, 163–182.
- Calvo, M. G., Eysenck, M. W., & Castillo, M. D. (1997). Interpretation bias in test anxiety: The time course of predictive inferences. *Cognition and Emotion*, 43–63.
- Calvo, M. G., Eysenck, M. W., & Estevez, A. (1994). Ego-threat interpretative bias in test anxiety: On-line inferences. *Cognition and Emotion*, 127–146.
- Crockett, L. J., Iturbide, M. I., Torres Stone, R. A., McGinley, M., Raffaelli, M., & Carlo, G. (2007). Acculturative stress, social support, and coping: Relations to psychological adjustment among Mexican American college students. *Cultural Diversity and Ethnic Minority Psychology*, 347.
- Diener, E., & Diener, C. (1996). Most people are happy. *Psychological Science*, 181–185.

- Emmons, R. A. (2004). Gratitude. In M. E. P. Seligman & C. Peterson (Eds.), *The VIA taxonomy of human strengths and virtues*. New York: Oxford University Press.
- Emmons, R., & McCullough, M. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 377-389.
- Eysenck, M. W., MacLeod, C., & Mathews, A. (1987). Cognitive functioning and anxiety. *Psychological Research*, 49, 189–195.
- Eysenck, Richards, May, Mogg, Mathews, & Eysenck, M. (1991). Bias in interpretation of ambiguous sentences related to threat in anxiety. *Journal of Abnormal Psychology*, 144-150.
- Faulkner, W., & Garrett, G. P. (1994). *Snopes: The Hamlet, The Town, The Mansion* (p. 575). New York: Random House.
- Frijda, N. H. (1993). The place of appraisal in emotion. *Cognition and Emotion*, 357–387.
- Frijda, N. H., & Zeelenberg, M. (2001). Appraisal: What is the dependent. In K. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion theory, methods, research* (p. 141). Oxford; New York: Oxford University Press.
- Froh, J., Bono, G., Fan, J., Emmons, R., Henderson, K., Harris, C., Leggio, H., Wood, A. (2014). Nice thinking! An educational intervention that teaches children to think gratefully. *School Psychology Review*, 132-152.
- Hirsch, C., & Mathews, A. (1997). Interpretative inferences when reading about emotional events. *Behavior Research and Therapy*, 1123–1132.
- Jackowska, Marta. (2016). The impact of a brief gratitude intervention on subjective well-being, biology and sleep. *Journal of Health Psychology*, 2207-2217.

- Kleiman, Adams, Kashdan, & Riskind. (2013). Grateful individuals are not suicidal: Buffering risks associated with hopelessness and depressive symptoms. *Personality and Individual Differences*, 55(5), 595-599.
- Krysinska, Karolina. (2018). Gratitude as a protective factor for suicidal ideation and behaviour: The theory and the evidence base. doi: 10.1007/978-3-030-03225-8_5.
- Lee, K. & Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behavioral Research*, 329-358.
- Lykken, D. (1999). *Happiness: What studies on twins show us about nature, nurture, and the happiness set point*. New York: Golden Books.
- Ma, L. K., Tunney, R. J., & Ferguson, E. (2017). Does gratitude enhance prosociality?: A meta-analytic review. *Psychological Bulletin*, 601-635. doi:10.1037/bul0000103
- MacLeod, C., & Cohen, I. L. (1993). Anxiety and the interpretation of ambiguity: A text comprehension study. *Journal of Abnormal Psychology*, pp. 238–247.
- Mathews, A., & Mackintosh, B. (2000). Induced emotional interpretation bias and anxiety. *Journal of Abnormal Psychology*, pp. 602-615. doi:10.1037/0021-843X.109.4.602
- Mathews, A., Richards, A., & Eysenck, M. W. (1989). The interpretation of homophones related to threat in anxiety states. *Journal of Abnormal Psychology*, 98, pp. 31–34.
- McCullough, M. E., Emmons, R. A., & Tsang, J. (2002). The grateful disposition: A conceptual and empirical topography. *Journal of Personality and Social Psychology*, pp. 112-127.
- McLaughlin, T. (2018). *Effects of benefactor type on gratitude and indebtedness* (Master's thesis). Eastern Washington University, Cheney, WA
- Nanney, J. T., Constans, J. I., Kimbrell, T. A., Kramer, T. L., & Pyne, J. M. (2015). Differentiating between appraisal process and product in cognitive theories of

- posttraumatic stress. *Psychological Trauma: Theory, Research, Practice, And Policy*, 372-381. doi:10.1037/tra0000011
- Parkinson, B. (1999). Relations and dissociations between appraisal and emotion ratings of reasonable and unreasonable anger and guilt. *Cognition & Emotion*, 347-385.
- Richards, A., & French, C. C. (1992). An anxiety-related bias in semantic activation when processing threat/neutral homographs. *Quarterly Journal of Experimental Psychology*, 503–525.
- Rosenberg, E. L. (1998). Levels of analysis and the organization of affect. *Review of General Psychology*, 247–270.
- Scheibe, D., Watkins, P. C., McCurrach, D., & Mathews, A. (2016, May). *Cognitive characteristics of gratitude*. Poster presented to the Annual Convention of the Association for Psychological Science, Chicago, IL.
- Scherer, K., Schorr, Angela, & Johnstone, Tom. (2001). *Appraisal processes in emotion theory, methods, research (Series in Affective Science)*. Oxford; New York: Oxford University Press.
- Smith, C. A., & Kirby, L. D. (2001). Appraisal: What is the dependent. In K. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion theory, methods, research* (p. 128). Oxford; New York: Oxford University Press.
- Watkins, P.C. (2004), Gratitude and subjective well-being, R.A. Emmons, M.E. McCullough (Eds.), *The psychology of gratitude*, (pp. 167-192). Oxford University Press, New York.
- Watkins, P. C. (2014). *Gratitude and the good life: Toward a psychology of appreciation*. Dordrecht, Netherlands: Springer.

- Watkins, P. C., Emmons, R. A., Greaves, M., & Bell, J. D., (2017). Joy is a distinct positive emotion: Assessment of joy and relationship with gratitude and well-being. *Journal of Positive Psychology*. doi.org/10.1080/17439760.2017.1414298
- Watkins, P. C., Wood, A., & Shields, V. (2016, June). *Institutional gratitude: Understanding grateful responses to salary raises*. Poster presented to the 8th Annual European Convention for Positive Psychology, Angers, France.
- Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. D. (2003). Gratitude and happiness: The development of a measure of gratitude and its relationship with subjective well-being. *Social Behavior and Personality*, 431-452.
- Watson, D., Clark, L., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 1063-70.
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review*, 548.
- Williams, A. D., Blackwell, S. E., Mackenzie, A., Holmes, E. A., & Andrews, G. (2013). Combining imagination and reason in the treatment of depression: A randomized controlled trial of internet-based cognitive-bias modification and internet-CBT for depression. *Journal of Consulting and Clinical Psychology*, 793-799.
doi:10.1037/a0033247
- Wood, Froh, & Geraghty. (2010). Gratitude and well-being: A review and theoretical integration. *Clinical Psychology Review*, 890-905.
- Wood, A. M., Joseph, S., & Linley, P. A. (2007). Coping style as a psychological resource of grateful people. *Journal of Social and Clinical Psychology*, 1076-1093.

- Wood, A., Maltby, J., Stewart, N., Linley, P., Joseph, S., & Phelps, Elizabeth A. (2008). A social–cognitive model of trait and state levels of gratitude. *Emotion*, 281-290.
- Woud, M. L., Holmes, E. A., Postma, P., Dalgleish, T., & Mackintosh, B. (2012). Ameliorating intrusive memories of distressing experiences using computerized reappraisal training. *Emotion*, 778-784. doi:10.1037/a0024992

Appendix

Pretreatment Measures

The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate number in the space next to that word. Indicate to what extent *you feel that this past week, that is, how frequently did you experience these emotions in the past week?* Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
<input type="text"/> interested			<input type="text"/> irritable	
<input type="text"/> distressed			<input type="text"/> alert	
<input type="text"/> grateful			<input type="text"/> ashamed	
<input type="text"/> playful			<input type="text"/> joyful	
<input type="text"/> excited			<input type="text"/> inspired	
<input type="text"/> upset			<input type="text"/> thankful	
<input type="text"/> strong			<input type="text"/> nervous	
<input type="text"/> guilty			<input type="text"/> determined	
<input type="text"/> scared			<input type="text"/> attentive	
<input type="text"/> appreciative			<input type="text"/> jittery	
<input type="text"/> hostile			<input type="text"/> active	
<input type="text"/> enthusiastic			<input type="text"/> afraid	
<input type="text"/> indebted (feeling obligated to repay)			<input type="text"/> amazed	
<input type="text"/> proud			<input type="text"/> obligated	
<input type="text"/> amazed			<input type="text"/> cheerful	
<input type="text"/> delighted			<input type="text"/> lively	

Recalling Benefits

Please try to recall two benefits that you received from someone else in the past two weeks. We would like you to write down two good things that someone did for you. They can be anything that you think enhanced your life in some way but try to recall benefits that were significant to you in some way. Please list these events on the lines provided below:

Write down something someone did for you within the last 2 weeks:	About how many days ago did this take place?
1.	____ days ago
2.	____ days ago

Please tell the experimenter when you have written down your two memories.

Benefit (experimenter will write this for you): _____

The following questions involve the your benefit above, and the person who provided it to you. Now we would like you to think about this benefit and put your honest responses to the items below.

To what extent was this benefit costly to the person who provided it to you? In other words, how much did it cost this person in terms of time, effort, money, etc.?

1	2	3	4	5	6	7
Not costly at all			Moderately costly			Very costly

To what extent do you think this benefit was intended by this person altruistic—intended for your benefit versus given with ulterior motives?

1	2	3	4	5	6	7
It was primarily given with ulterior motives			Somewhat for ulterior motives and somewhat for my benefit			It was primarily given for my benefit

How valuable was this benefit for you?

1	2	3	4	5	6	7
Not valuable			Moderately valuable			Very valuable

Did this benefit meet your expectations of what you think you deserve?

1	2	3	4	5	6	7
It was very much below my expectations			It was about what I think I deserved			It very much exceeded my expectations

To what extent was this person meeting versus exceeding his or her obligations to you?

1	2	3	4	5	6	7
The person was not meeting his or her obligations to me			The person was meeting his or her obligations to me			The person was exceeding his or her obligations to me

How grateful are you for this benefit?

1	2	3	4	5	6	7
Not grateful			Somewhat grateful			Very grateful

How satisfied are you with this benefit?

1	2	3	4	5	6	7
Not satisfied			Somewhat satisfied			Very Satisfied

Gratitude Scenarios Presented in Random Order on Computer

Please try to imagine yourself as the central character in each of the scenarios that will be presented to you. Try to create as vivid a picture of the scenario as you can in your mind. At the end of each scenario, you will see a word fragment (e.g., w_ _rd), and your task will be to press the letter on the keyboard that represents the first correct missing letter. Use the description of the scenario that is presented to produce the correct letter that completes the word fragment.

You have missed a day of class and when you return to class an acquaintance has copied their notes of the previous lecture for you.

Your professor posts all of their Power Points slides online, so you wonder why your acquaintance copied their notes for you.

In the end, you feel that your friend's assistance was **considerate/pointless**.

(c_ _siderate / p_ _ntless)

Did you feel that your friend's help was kind? Yes/No

Did you feel that your friend's help was useful? Yes/No

You have a cabin at the beach with a beautiful view of the ocean, but your neighbor's trees are blocking your view.

You mention this to your neighbor who tells you that the housing association has also complained.

Next morning you wake up one to find that your neighbor has thinned their trees unveiling a beautiful view of the sea and think: this is out of their **thoughtfulness/obligation**.

(th_ _ghtfulness / obli_ _tion)

Did your neighbor thin their trees because they had to? Yes/No

You are on a diet because you'd like to lose some weight.

A friend of yours' has been on vacation and they bring back a box of your favorite chocolates as a gift for you.

You see your friend's gift as **thoughtful /insensitive**.

(thought_ _l / ins_ _sitive)

Was your friend's gift considerate? Yes/No

In your research methods class a fellow classmate gives you an article relevant to your term paper, even though they know you have completed a very extensive literature search.

You find yourself thinking a lot about why they gave you the article.

You decide that your classmate giving you the article was **kind/silly**.

(k_ _nd / s_ _ly)

Was your classmate giving you the article thoughtful? Yes/No

You are moving from one apartment to another this weekend.

You have a friend who is making a similar move in two weeks.

When you begin your move, your friend shows up to help you move.

You wonder if this was just to get your help in return, and conclude it was **supportive/manipulative**.

(su_ _ortive / ma_ _ipulative)

Was your friend's help selfish? Yes/No

You have a birthday party and many of your friends come to celebrate.

Although you have discouraged them from bringing gifts, one of your friends whom you do not know very well gives you a particularly expensive gift.

You think that their gift shows that they are really **generous**/ trying to **show off**.

(gener_ _s / s_ _w off)

Was your friend being a poser? Yes/No

You receive a letter from an aunt you have not heard from for quite some time.

She writes that she is concerned about your college education and she includes a \$500 check with her letter.

The last time you met you told her that you can provide for your college expenses yourself, so you find that her check is really **appreciated/demeaning**.

(a_ _reciated / dem_ _ning)

Did you value your aunt's check? Yes/No

One of your good friends has set you up on a blind date although you had previously mentioned that you needed time to get over your last relationship.

You feel you should go on the arranged date, but don't find it very enjoyable.

You end up feeling that your friend setting you up has been **considerate/thoughtless**.

(c_ _nsiderate / thought_ _ss)

Was your friend's favor kind? Yes/No

You don't have anything planned so are pleased when a friend invites you to a party on the weekend.

As you walk around the party, you see that your old romantic partner who dumped you two months ago was also invited.

You feel that your friend's party invitation to you was **supportive/insensitive**.

(supp_ _tive / inse_ _itive)

Was your friend's invitation nice? Yes/No

You have been working at a department store for four years and although this is just a paycheck to you, you show up to work on time for the most part, and you don't feel as though you're doing a bad job.

Your boss tells you that for the New Year you're going to get a \$3 per hour raise.

You then find out from your fellow workers that they are also going to get a \$3 raise, even though they have not been working at the store for as long as you have.

You feel that your raise was **generous/unfair**.

(g_ _erous / un_ _ir)

Was your boss's raise for you unkind? Yes/No

Was your boss's raise for you fair? Yes/No

As you're driving to school you discover that you have a flat tire.

You have just finished fixing the tire yourself, when a fellow student who you don't know well pulls off and offers to put on your spare tire.

You wonder why they decided to help you.

As you think about it more, you conclude that this student's offer of assistance was **genuine/contrived**.

(gen_ _ne / contr_ _ed)

Was the student's help authentic? Yes/No

A windstorm has caused your home or apartment to lose power but after two days, you hear that power will be restored shortly.

An acquaintance then invites you to come and stay in their apartment which had never lost power.

You find yourself thinking that coming at this time, their offer was **sincere/ suspect**.

(sin_ _re / s_ _pect)

Was your acquaintance's offer questionable? Yes/No

You are scheduled to fly out of town tomorrow morning for the holiday, but your car isn't working and you wonder how you'll get to the airport.

You consider calling a cab, but decide to ask your mother to take you to the airport.

She agrees to take you and you feel that she is taking you to the airport out of her **love/duty**.

(l_ _e / d_ _y)

Did your mother take you to the airport because she felt obligated? Yes/No

You have just purchased all of your textbooks for the quarter and are carrying them to your car, which happens to be parked some distance away.

You drop a few of them and someone you do not know picks them up and carries them to your car.

You find yourself wondering why they are assisting you.

You conclude that their help is very **generous/suspicious**.

(g_ _erous / s_ _picious)

Was this person's help motivated by their kindness? Yes/No

As you're studying for a test a friend calls you to talk about the test.

It's late at night, you're just about finished studying for the test and you feel that you have a good grasp of the material.

You wonder about your friend's motivation and decide that they are just looking to be **helpful/helped**.

(h_ _pful / h_ _ped)

Was your friend really trying to help you do better on the test? Yes/No

You're working on a group project for a class with four other members of your team, each one working on different aspects of the assigned topic.

You work very hard on the project and you hope that the other members of your team are doing so also.

The team presentation receives a very good grade—96%—and from your experience on this project you conclude that the contributions of the others on your team was

important/insignificant.

(im_ _rtant / ins_ _nificant)

Did the other members of your team make a significant contribution to the project? Yes/No

It is a very busy part of the quarter and you're worried about how you'll get all of your coursework done.

You have a particularly difficult test coming up and a major paper that is due the next day.

Your professor announces in class that because of all the information he has covered in a short period of time, he is postponing the test until the following week.

You think a lot about why your professor is really postponing the test, because he seems to have a hard time getting things done on time.

You conclude that he is postponing the test because of his **graciousness/laziness**.

(gracI_ _sness / l_ _iness)

Was your professor postponing the test because of his own procrastination? Yes/No

You would like to present your research at a conference and you're not sure how you can afford to go, but you figure that if you're really careful you could go to the conference for about \$400. The psychology honors society announces a competition for two \$600 stipends to attend the conference.

You spend a lot of time and effort on your application for this award and one of the society officers tells you she's pretty sure your application will be one of the top two applications, if not the best one of the bunch.

You go to the next honors society meeting where they will probably announce the winners of the stipends.

The president tells the group that they have received an unexpected grant from the university and that instead of awarding two \$600 awards they are going to award 10 people \$500.

You receive one of the \$500 stipends and you end of feeling that this award was **valuable/unjust**.

(v_ _uable / unj_ _t)

Was this stipend very useful to you? Yes/No

Was this stipend award fair? Yes/No

You are taking a very difficult class and you are struggling with the course material.

Although you're spending a lot of time studying, your effort doesn't seem to be paying off with better grades.

The last week of lectures your professor announces to you that she is lowering the curve, and this probably means that you'll get a 4.0.

Because your professor has been a bit mean in the past you're actually quite curious as to why she is lowering the curve.

You finally end up thinking that her motivation for lowering the curve was **generous/suspect**.

(gen_ _ous / susp_ _t)

Was your professor lowering the curve motivated by her own selfishness? Yes/No

Your boss tells you that she might be able to give you a bonus over the holiday season if sales improve.

You know that in the past employees have received holiday bonuses as high as \$600, so you work really hard to improve business.

You also notice however, that some fellow employees don't seem to be working very hard.

At the Holiday Office Party your boss announces that business has greatly improved recently, and she is giving all of her employees a \$200 bonus.

You wonder why she is awarding bonuses to all of the employees.

You end up feeling that the bonus was **good/unfair**.

(g_ d/ unf_ _r).

Was the raise a poor raise?

Was the raise fair?

You have just completed a test, and you're worried about how well you did on it.

Over the weekend your professor posts the scores on the test and you got a 93% on the test, which makes you feel pleased.

When your professor returns the tests during the next class, she explains that because the test was so difficult she had added 13% to all the scores, which meant that you actually achieved a score of 82% before the extra points were added.

As you think about the points that your professor added to your score, you end up feeling that this addition was **generous/ excessive**.

(gener_ _s / exc_ _sive)

Was the 13% your professor added to the scores kind? Yes/No

Was the 13% your professor added to the scores unwarranted? Yes/No

You're in the last two weeks of the quarter and there's a test coming up in a week.

You have been studying for this test for over a week, but you know that most of your fellow students haven't even started to study or read the text material.

Four days before the test your professor announces that because this course has already covered a lot of material, he is cancelling this test.

Although you have a lot of things to do for your other classes, you feel that you have wasted time studying for this test.

In your final analysis, you end up feeling that cancelling the test was **beneficial/inconsiderate**.

(bene_ _cial / inc_ _siderate)

Was canceling the test unhelpful to you? Yes/No

Was your professor thoughtful in canceling the test? Yes/No

You're taking a tough class and unfortunately you've had a couple of difficult encounters with your professor.

You have spent a lot of time on a critical thought paper for this class.

On the day your professor hands back the papers he tells the class that your paper is a great example of what he was looking for in this assignment, and he even says that he thinks yours' is one of the best papers he has seen.

You find yourself thinking a lot about why he singled you out.

You conclude that he really meant you to feel **honored/embarrassed**.

(hon_ _red / emb_ _rassed)

Did your professor try to make you feel uncomfortable? Yes/No

You're running short of cash this month, and although you know that you need to change the oil in your car, you just don't think you can afford to.

Before class one day you're joking around with one of your classmates and you laughingly let out that you haven't changed the oil in your car for 10 months.

They respond, "That's a long time!", and then they offer to come over and change your oil for you.

They have tried to help you in several other circumstances and you have wondered a lot as to what were their intentions.

Although you resist their offer, you really don't know how to change your oil, so you give in and they come over to your place to change your car's oil.

After thinking about it, you finally conclude that your classmate's motivations were **good/questionable**.

(g_ _d/q_ _stionable)

Were your classmates intentions dubious? Yes/No

You're at the coffee shop waiting in a rather long line, and you're worried that you might be late to your next class.

As you are waiting you check your watch a few times and you think the person in front of you notices your concern.

As the line slowly moves on the person in front of you offers for you to go ahead of them in line.

You feel that their offer was actually **profitable/embarrassing**.

(profit_ _le/e_ _arrassing)

Was their offer valuable to you? Yes/No

Did their offer make you feel uncomfortable? Yes/No

Your professor is using a rather expensive text for a class you're taking from him.

The text is over \$300 and you wonder why he had to choose such an expensive book for this class.

You know you need the text, and although you're somewhat intimidated by your professor, 4 days before the first test you go to talk with him about your predicament.

You're not sure how much he really understands your situation, and you happen to notice that he has three copies of the text on his shelf.

After thinking about it a bit, he offers to loan you one of his copies for the quarter.

You feel that your professor loaning you the text was mostly out of his **generosity/obligation**.

(gener_ _sity/ obli_ _tion)

Was it your professor's duty to loan you the text? Yes/No

You're sitting in the library studying when someone comes up to you and gives you a silver dollar taped to a card that simply reads, "Random Kindness Society." You wonder about this because last week someone from a campus club "gave" you a small gift and then asked for a donation.

As the person who gave you the card approaches you again you feel that this gift was **genuine/suspect**.

(gen_ _ne / susp_ _t)

Was the silver dollar a real gift? Yes/No

You are doing a research project on an area that really interests you.

There is a book that you really need for this research, but you really can't afford it.

You have heard that often authors are given many free copies of the book by the publisher that the authors don't use, so you email the author to see if she might have any spare copies she could send you.

She sends you one of her books immediately, but it isn't the latest edition of the book that you wanted.

You end up feeling that the book author was **gracious/stingy**.

(grac_ _us / st_ _gy)

Was the book the author gave you a generous gift? Yes/No

Your birthday is coming up and your romantic partner has asked you what you would like for your birthday.

When your birthday comes, your partner gives you a present that you weren't quite expecting. Although you think they spent a fair amount of money on the gift, it wasn't anything you told them that you would like and you wonder if the gift isn't what they would like you to have rather than what you would like.

After thinking about it you feel that the gift was really **considerate / selfish**.

(c_ _siderate / s_ _fish)

Was the gift given to you out of a genuine concern for you? Yes/No

Your psychology honors society has a student research paper competition and you decide to enter.

You spend a lot of time and pour a lot of creative energy into your project.

They announce the winners of the competition and you have won second place, but you know that the first place winner just submitted a paper they had written for one of their classes.

As you ponder the competition, you feel that your award was really **great/unfair**.

(gr_ _t / unf_ _r)

Was the award valuable to you? Yes/No

Was the award just? Yes/No

You have a holiday party and many of your friends come to celebrate.

There is a planned white elephant gift exchange, but you have discouraged them from bringing gifts just for you.

One of your friends whom you do not know very well brings a gift for the exchange, and also gives you a particularly expensive gift.

You think that their gift shows that they are really **generous/ trying to show off**.

(gen_ _ous / s_ _w)

Was your friend's gift to you motivated by their kindness? Yes/No

You finish a hard day at work and head home, and realize it is your turn to clean up around the apartment.

Upon arriving, you find that one of your roommates cleaned while you were away, which surprises you because they have forgotten their clean up turn a few times in the past.

When asking them about it, they say they were bored and just felt like cleaning, and that you could take their upcoming cleaning day in return.

You feel as though their actions were **considerate/self-serving**.

(consid_ _ate / s_ _f-serving)

Was your roommate being selfish? Yes/No

After an argument with a fellow employee at work, you are called to meet with your supervisor. You expect to be punished, but find that another coworker who heard the argument stood up for you.

You wonder why they did this for you, and they tell you that they just wanted to make sure the other party was punished

You decide that their intervention was **supportive/spiteful**.

(support__e / spite__l)

Was your coworker unkind? Yes/No

Was your coworker trying to get revenge? Yes/No

On your way to start your day, you decide to stop at Starbucks for a coffee.

Upon pulling into the drive-thru, you discover that the previous customer paid for your order.

The employee remarks that this has been going on for several orders ahead of you.

You decide that the previous customer's actions were borne out of their **generosity/obligation**.

(g__erosity / o__igation)

Was the previous customer being kind to you? Yes/No

Was the previous customer just doing their duty? Yes/No

You are lifting weights at the gym and you begin to bench-press a weight you are normally comfortable with.

When you show your first hints of struggle, someone you are unfamiliar with comes over to help you.

You wonder why they are helping you and feel that they just wanted to **assist/demean** you.

(a__ist / dem__n)

Was the other person's help motivated by their concern for you? Yes/No

You find yourself in disagreement with someone in a Facebook discussion.

As the argument continues, someone joins your side of the issue.

You find that half of what they're saying isn't helping, and might even be hurting your argument.

You find their added voice to the discussion to be **appreciated/unneeded**.

(appre__ated / unnee__d)

Was your friend's help in the discussion valuable to you? Yes/No

You are spending time with a friend, when they suddenly warn you that your romantic partner was eating with someone of the opposite sex.

The friend suggests their behavior was a little too warm to be just a friendly interaction.

Upon confronting your romantic partner with this information, they inform you that their companion was a cousin whom they had not seen in years.

You feel that your friend's information was actually **considerate/harmful**.

(c__siderate / h__mful)

Was your friend's communication to you thoughtful? Yes/No

You are playing an online game.

You engage another player in battle, and find yourself evenly matched, but you're convinced you can beat them.

As both you and your opponent's characters approach death, an ally comes in and lands the final blow that vanquishes your opponent.

You feel that their contribution was **valuable/ selfish**.

(val__ble / sel__sh)

Was your ally's contribution needed? Yes/No

Your friend buys you a nice gift for your birthday.

Unfortunately, you already own what they bought you.

You and the friend had talked about your purchase a few months ago due to how excited you were.

You wonder why they bought you this gift, but end of feeling that your friend's purchase was **kind/thoughtless**.

(k__d / th__ghtless)

Was your friend's gift thoughtful? Yes/No

You are driving to another town during a snowstorm and slide into a ditch beside the road.

The car isn't damaged, but you can't remove it from the ditch.

The first person who drives by pulls to the side and says in a light-hearted manner, "driving a little fast eh?"

They then assist you in getting back on the road.

You feel that this person's actions were really meant to **assist/correct** you.

(a__ist / c__rect)

Did this person really want to help you? Yes/No

You have a doctor's appointment at the time of a test in one of your classes, but your professor lets you take the test a day late.

You take the test and although you feel you've done well, you're really unsure of several items and you're anxious to see your test score.

Your professor hands back the tests the next day in class but you don't get your test back because your professor didn't have time to grade your test yet.

You feel that your professor's actions have been **gracious/unfair**.

(grac__us / unf__r)

Has your professor been fair to you? Yes/No

You're taking a class that requires each student to make three presentations.

After each presentation the class discusses it and then gives you a grade from 1 to 10. After your third presentation the class has a lively discussion and one person who has been critical of your previous talks is quite complimentary of this presentation.

You remember that he has yet to give his third presentation, and you end up concluding that his comments on your last presentation were **supportive/self-serving**.

(s__portive / s__f-serving)

Were this person's comments selfish? Yes/No

You go to get your free college bus pass.

Although you'd rather drive to campus, you pick up the pass because it will save you a little money to take the bus.

As you think about how much your university charges you for tuition, you feel that the benefit of the bus pass is really out of the university's **generosity/obligation**.

(gen__osity / obli__tion)

Was it the university's duty to give you this bus pass? Yes/No

You have worked at a grocery store for five years, but after talking to a friend you find that your wages are significantly lower than people working at other grocery stores.

Your store manager announces that they are committed to providing their employees with a competitive wage and this results in a five-dollar per hour raise for you.

You think a lot about why they gave you this raise and conclude that this raise was really **beneficial/ overdue**.

(bene__cial / over__e)

Was this raise valuable to you? Yes/No

Was this raise premature? Yes/No

You've been looking for a full time job for two months and you haven't been able to find anything.

You've discussed your situation with a good friend and have told them the kind of job you're looking for.

The following week you get a call from someone for a part-time job at a chain department store, but you have serious issues with how they do business and treat their employees.

Because you didn't apply at this store you ask them how they came to call you and they tell you that your friend had recommended you to them.

You feel that your friend's referral was **thoughtful/unhelpful**.

(thought__l / unhelp__l)

Was your friend's referral careless? Yes/No

You go to the doctor for your annual checkup and your doctor tells you that everything seems to be OK.

The next day they call you back and ask you to come in because they want to make sure about something.

You come in and everything checks out fine, but you wonder why they had you come back in.

You finally decide that your doctor had you come in again for his own personal **concern/gain**.

(conc__n / g__n)

Did your doctor have you come in because of his selfish motivations? Yes/No

You have just moved in to a new house and your new neighbors invite you over for dinner.

They serve you a very nice dinner that seemed to require a lot of cooking with expensive food.

At the end of the evening they invite you over for another meal, and say that they would like to talk to you more about the neighborhood.

You wonder about what they would like to talk to you about, but you finally decide that they want you to feel **welcomed / obligated** to the neighborhood.

(welc__ed / obliga__d)

Did your neighbor want you to feel excluded from the neighborhood? Yes/No

Did your neighbor want you to feel indebted to the neighborhood? Yes/No

You are studying for a difficult exam and you feel that you have a pretty good handle on the material.

While studying, you receive an email from a friend listing a number of questions they think will be on the test.

Most of the questions that your friend provided to you are ones that you expected to be on the test.

You feel that your friend's email was **thoughtful/unneeded**.

(th_ _ghtful / unn_ _ded)

Did you feel that your friend's email was thoughtless? Yes/No

Did you feel that your friend's email was helpful? Yes/No

You are very concerned about how you are going to pay for tuition next quarter.

A friend of yours' just won \$200,000 in the State Lottery, and they give you enough money to pay for your tuition.

When you ask them why they helped you they reply, "What else am I going to do with the money?"

After pondering their gift a bit, you finally conclude that they gave you the money out of their **kindness/ excess**.

(k_ _dness / exc_ _s)

Was your friend's gift cruel to you? Yes/No

Did your friend pay for your tuition out of their surplus funds? Yes/No

Your partner has thrown a surprise birthday party for you and many of your good friends are present. You receive several nice gifts.

One friend gives you a gift that is not particularly expensive, but is something that you really need.

You did not expect this gift and you ask your friend, "How did you know that I needed that?"

You feel that they got you this gift because they were **thoughtful/ lucky**.

(thou_ _tful / l_ _ky)

Did your friend get you what you needed just because they were fortunate? Yes/No

You are writing a term paper that is due tomorrow.

When you are almost done with the paper, the computer goes blank and you fear that you have lost all of your work.

You try a number of things but the monitor remains blank.

Your roommate comes in looking a little agitated and they look at the computer.

They discover that the plug to your monitor has come out of the wall and when they plug it back in everything seems to be fine.

Your roommate has fixed your computer because they want you to feel **valued/stupid**.

(val_ _d / stu_ _d)

Did your roommate fix your computer because they want you to feel dumb? Yes/No

You are taking a very difficult class that is core to your major.

You spend a lot of time on the class because you want to do well, but when you add up your points you have fallen three points short of the total required to receive a 4.0. When you receive your grades you see that your instructor has awarded you a 4.0 in the class.

You wonder why your professor gave you that grade, and you conclude that in giving you that grade they did it primarily out of their **kindness/ obligation**.

(k__dnness / obli__tion)

Was it your professor's responsibility to give you a 4.0? Yes/No

Several friends have joined you to celebrate your birthday.

You receive several interesting gifts from them, and one of your friends gives you a book and a set of DVDs on a fitness program.

As they give you this gift, they say, "It really worked for me."

As you are enjoying your party, you think about this last gift and you wonder about what your friend thinks of you.

You finally conclude that your friend thinks that you're **important/fat**.

(impo__ant / f__)

Did you think that your friend valued you? Yes/No

Did your friend think that you were overweight? Yes/No

You are taking a class in which the term project is completed in teams.

There are seven different teams in the class and your instructor assigns a "captain" to each team.

The captains are then supposed to choose members for their team, each taking turns to choose each member.

You know that one particular captain works hard, is organized, and is a good student. This captain picks you as the first member of their team.

You wonder why they chose you first, but then conclude that they chose you because they were **considerate/ selfish**.

(consi__rate / s__fish)

Did your friend choose you because they were altruistic? Yes/No

You have come in to participate in a psychology experiment.

You have been scheduled for a 9:00 session, but the previous session is going a little long, so the research assistant asks you if you would like a soda while you're waiting. You think about why they would offer you a soda.

They go out to the soda machine and buy you your favorite drink, and you conclude that this did this because of their **concern/ task**.

(con__rn / t__k)

Did the research assistant buy you a soda because it was just part of their job? Yes/No

You are taking 20 hours of credit this quarter, and you find that this is a challenging quarter.

About half way through the quarter someone in one of your classes whom you do not know well gives you a book called, *How to Study Even When You don't Want To*.

You wonder why they gave you the book and you feel that they did it because they want to **help/ insult** you.

(h__p / ins__t)

Did this person give you the book because they wanted to offend you? Yes/No

Although you do not know Professor McAllister well, you have taken several classes from her and have done fairly well in those classes.

You are applying for a job and you are a little nervous about asking this professor for a letter of recommendation.

She agrees to write you a letter but she says that it is her policy that the letter needs to be confidential, meaning that you will not be able to see the letter.

You wonder what the letter will be like, but you get the job.

You feel that the letter was really **beneficial/unhelpful**.

(b_ _eficial / unh_ _pful)

Did your professor's letter help you get the job? Yes/No

You have just printed out 50 pages of lecture PowerPoint notes for one of your classes.

As you are walking away from the printer you drop your copies and someone you do not know helps you pick them all up.

You find yourself wondering why they are assisting you.

You conclude that their help was very **generous/suspicious**.

(gener_ _s / s_ _picious)

Did you think that their help was questionable? Yes/No

You are out having lunch with a good friend.

Your conversation leads to discussing the fact that you are single but not currently interested in anyone, and you explain that you are content in your situation.

Later that evening your friend calls you to tell you they have set you up on a blind date with someone "who is a lot like you."

You find yourself thinking a lot about what led your friend to do this, and end up feeling that they feel you are **valuable/pathetic**.

(val_ _ble / path_ _ic)

Did your friend think that you are worthwhile? Yes/No

You have been driving for 20 miles now with your gas gauge on "E", and finally you find a place to stop and get gas.

You get out of the car and go to fill up but you realize that you have left your wallet at home.

As you search in vain for your wallet, you notice that someone is staring at you intensely and they walk up and put their credit card into the gas pump and say, "This fill up is on me."

You fill your tank and wonder if this isn't one of those scams that sometimes takes place at filling stations.

You say "thank you" to the person and they respond, "Well, I'm sure you can pay me back some time."

In thinking about this situation you conclude that the person who gave you gas was **kind/suspicious**.

(k_ _d / suspici_ _s)

Was this person filling up your tank motivated by their generosity? Yes/No

You're taking a very difficult class where a grade of 2.0 is required for completing your major.

You work very hard in the class but out of a possible 600 points you only get 430, which is 20 points short of receiving a 2.0.

You're worried about your grade but your professor ends up giving you a 2.0 in the class and you feel that this grade was very **generous/justified**.

(g_ _erous / justi_ _ed)

Did you deserve the 2.0 grade? Yes/No

As you're grocery shopping one evening you see another person about your age several times around the store and each time you see them they smile at you.

At one point while shopping in the produce section, this same person asks you a somewhat contrived question about organic tomatoes and you wonder if they're trying to hit on you.

As you're checking out you notice that this same person is right behind you in line.

As you go to pay your bill you notice that you are \$5.25 short in cash and this person pays the remainder of your bill for you.

You think a lot about why they paid the rest of your bill, and you end up feeling that it was very **considerate/fishy**.

(consider_ _e / f_ _hy)

Was this person paying your remaining bill thoughtful? Yes/No

Did you think that this person's motivations for paying the remainder of your bill were suspicious? Yes/No

You're applying for graduation and you've spent a lot of time filling out all of the forms. You're pretty sure that you've completed all of the forms but the registrar's office informs you that there is one form that they don't have and it was due last week.

You fill out the form and hand it in the next day but you wonder if the registrar will accept it so you can graduate on time.

Two weeks go by and the registrar finally informs you that they will accept the form even though it was late.

You feel that the registrar's actions have mostly been due to their **grace/duty**.

(gr_ _e / d_ _y)

Did you feel that it was the obligation of the registrar to accept the form? Yes/No

You need to find one last class to fill your schedule for the quarter but you just can't find any open classes that fit your schedule.

You're worried about this situation because you need the class to stay on schedule to graduate and so you communicate your concerns to a fellow student who is also your friend.

The next day your friend comes to you and tells you that they have spoken with their professor and even though the class is full he will let you in.

Although the class fits into your schedule the professor is a teacher you don't like and your friend knows this.

You finally conclude that your friend's intervention on your behalf was **valued/** worthless).

(val_ _d / worth_ _ss)

Was your friend's intervention beneficial? Yes/No

You have announced to your family and friends that you are working on becoming a vegan, because you want to help save animals.

Later on as a birthday gift, your friend takes you to a fancy restaurant that doesn't have a vegan menu or options.

You see your friend's dinner as **thoughtful/insensitive**.

(th_ _ghtful / insen_ _tive)

Was your friend taking you to the restaurant considerate? Yes/No

Christmas is coming up and you and your spouse decide to not get each other gifts, instead you both are just going to shop for your children.

When Christmas comes, you find that your spouse has purchased a couple gifts for you, and you didn't get them anything.

You then feel that the gifts were really **considerate/ excessive**.

(c_ _siderate / exce_ _ive)

Were your spouse's gifts to you unnecessary? Yes/No

You join LinkedIn and add some of your friends.

When creating your profile you add skills you believe you have and are beneficial to have in the workforce.

One of your friends adds and endorses skills you feel are unnecessary to showcase on your profile.

You find their added input to be **appreciated/unneeded**.

(app_ _ciated / unnee_ _d)

Did you cherish your friend's input on your LinkedIn account? Yes/No

Was your friend's input onto your LinkedIn account needed? Yes/No

You go to the university library to rent a laptop.

Although you'd rather buy your own laptop, you rent one because it will save you money.

As you think about how much your university charges you for tuition, you feel that the benefit of renting laptops is really out of the university's **generosity/obligation**.

(g_ _erosity / obli_ _tion)

Did you feel that it was the university's duty to rent laptops? Yes/No

One of your good friends has created a profile for you on Match.com and a couple other dating sites, although you had previously mentioned that you needed time to get over your last relationship.

You soon find your e-mail and phone flooded with notifications from these sites, but you're not sure if you're ready for another relationship just yet.

You end up feeling that your friend setting up these profiles was **considerate/thoughtless**.

(c_ _siderate / th_ _ghtless)

Was your friend setting up your dating profile inconsiderate? Yes/No

An old romantic partner calls you and asks to get together for coffee.

Because this was a particularly difficult break up for you, you wonder why they want to get together with you.

As you meet with them you can't really tell if they want to get back together with you or if they're just giving excuses for breaking up with you.

In the end you feel that this meeting was very **valuable/pointless**.

(v__uable / pointl__s)

Did you feel that this meeting was worthwhile? Yes/No

You are at work and overhear a co-worker who you know moderately well going around and inviting other individuals to go out to eat after work and you wonder if they're going to invite you too.

After overhearing several conversations like this, that co-worker approaches you and invites you to the same event.

You conclude that the invitation was done due to their **kindness/obligation**.

(k__dness / o__igation)

Did you feel like your coworker felt that they had to invite you out to eat? Yes/No

You have spent 30 minutes shopping in a retail store and working with a sales associate.

At the register, the associate mentions that if you buy another item they could apply an additional coupon to it and give it to you for 75% off.

As they're telling you about this offer you wonder whether or not they are working on commission.

After thinking about the offer, you decide the associate gave you this information out of their **generosity/selfishness**.

(gener__ity / s__fishness)

Did you think the sales associate was motivated by kindness to you? Yes/No

You receive a \$100 check in the mail from a relative you only know moderately well. The check is attached to a card that says, "I had a hard time in college financially – hope this helps you out."

You immediately decide this gift is **kind/condescending**.

(k__d / condes__nding)

Was this gift motivated out of your relative's generosity? Yes/No

You are in a hurry and are anxious about getting to your appointment on time.

At a traffic intersection you arrive at the same time as another car.

They have the right of way, but they wave you to go ahead and go before them.

You feel that they waved you ahead because they thought you were **polite/ annoying**.

(pol__e / anno__ng)

Did you feel that the other driver felt that you were irritating? Yes/No

You are in a mall and a random stranger hands you two movie tickets saying, "We couldn't see the show, so you might as well use them."

The tickets are to a movie you wanted to see, and you decide to watch it with your friend.

The stranger gave you the tickets out of their **goodwill/ convenience**.

(g__dwill / conven__nce)

Did the stranger give you the tickets out of their kindness? Yes/No

Was it inconvenient for the stranger to give you their tickets? Yes/No

You and a friend are both in a class together.

You struggle in the class but your friend does quite well.

After a big test that you fail and your friend aces your friend offers to tutor you.

You aren't sure how to interpret this offer.

You decide your friend's offer was because they were being **helpful/prideful**.

(h_ _pful / pride_ _l)

Was your friend's offer to help motivated by their kindness? Yes/No

You are eating dinner in a restaurant.

When you get your food there is a bug crawling around on the plate and the food is undercooked.

You point this out to your waiter and the manager comes over and gives you a \$500 gift card for the restaurant.

The manager gave you this gift card out of their **decency/fear**.

(dece_ _y / f_ _r)

Was the manager motivated to give you the gift card because they were afraid of what might happen to them if they didn't? Yes/No

You have done several kind things for your friend who has been going through a difficult time.

Now their hard time is over and your friend surprises you with a really nice dinner.

Your friend made you dinner in response to your kindness because they were feeling

grateful/obligated.

(gra_ _ful / obli_ _ed)

Did your friend make you dinner because they felt as though they had to? Yes/No

You are in middle school and you are going through a hard time and spend a lot of the time in your house by yourself instead of doing things with others.

Your father was a very successful athlete when he was younger, and he signs you up to play a sport that you have not expressed interest in.

After considering this, you end up feeling that he did this because he was being **caring/ selfish**.

(car_ _g / s_ _fish)

Was your father motivated by his own concerns for himself? Yes/No

You are sitting at lunch with a friend discussing a recent relationship issue you just had with your romantic partner.

You mention how you wish your partner could be more caring and less selfish.

Your friend listens to you patiently, and then agrees with you, saying that they really "hate" that about your partner.

Their response surprises you a bit and you feel that your friend is being **empathetic/rude**.

(empa_ _etic / r_ _e)

Was your friend's response compassionate? Yes/No

You are out at a bar with a group of friends on a Friday night.

You have one friend that keeps buying drinks for everyone, including yourself.

By this time, your friend must have spent over \$300 on drinks for everyone.

You end of feeling that your friend is being **generous/reckless**.

(g_ _erous / reck_ _ss)

Was your friend being stingy? Yes/No

Was your friend being careful? Yes/No

You are at a business convention with a small group of friends.

It is the last day of the convention and you have seen all of your other friends' presentations.

You are preparing to give your presentation this afternoon at 2:00 PM and have put a lot of work into it.

While you are preparing, you overhear your friends making plans that would mean that they would miss your presentation.

You remind them of your presentation and one of your friends says, "Oh, yeah, I forgot. Well yes, of course we'd rather go to that!"

After pondering their reply, you feel your friend's response was **considerate/sarcastic**.

(consi__rate / sarc__tic)

Was your friend's response kind? Yes/No

You have been in a class for a month and have been struggling.

The teacher pulls you aside after the class and offers to meet with you and work with you to give you help in the class.

You interpret this offer as **gracious/ demeaning**.

(gra__ous / deme__ing)

Did you feel that your teacher's offer was condescending? Yes/No

You have exciting plans for tonight, but realize as the time draws closer that you've forgotten to clean your apartment, and it's your turn to do so.

Seeing your distress, your roommate offers to do the cleaning for you, as they have nothing planned for the day.

You thank them, and they reply that they're "sure you'll do the same for me when I'm in this kind of fix."

You end up feeling as though their actions were **considerate/self-serving**.

(c__siderate / self-serv__g)

Did you feel as though your roommate helped you clean up just because they wanted you to do the same for them in the future? Yes/No

You are lifting weights at the gym, and decide to do some squats.

While you are loading weights on the rack, you see a group glancing over at you and talking just quietly enough for you not to hear.

Almost immediately after you start your set, one of the group walks over and points out parts of your form that need work.

You feel that their comments were **helpful/demeaning**.

(h__pful / dem__ning)

Did you feel that the individual's comments were not helpful? Yes/No

Did you feel that the individual's comments were meant to humiliate you? Yes/No

You are playing the game Risk with some friends.

One of them begins to attack your armies, and is rapidly conquering your territories.

Unexpectedly, another friend intervenes, and you manage to push back the attacker and reclaim what was lost.

You notice that by assisting you your friend strengthened their position in the game.

You finally feel that their intervention was **valuable/opportunistic**.

(v__uable / oport__istic)

Was your friend's intervention in the game beneficial to you? Yes/No

Was your friend's intervention in the game self-serving? Yes/No

You are driving to school during a snowstorm and slide into a ditch beside the road

The car isn't damaged, but you are struggling to remove it by yourself.

The first person who drives by pulls to the side to help, but you find their assistance to be only somewhat helpful, as they aren't very strong and they don't seem to be experienced in this situation.

The two of you eventually manage to free the car and you drive to school, arriving several minutes late for class.

You decide that the individual's assistance was **helpful/worthless**.

(h__pful / w__thless)

Was the individual's help beneficial to you? Yes/No

You stop by Safeway to pick up a couple of items for dinner.

When going to pay for the items, you see that all the available checkout aisles are full.

A woman with a full cart of items notices you only have a couple, and beckons you to cut ahead of her in line.

Shortly after, another cashier opens a line, and ushers the woman into the empty line.

After thinking about it a bit, you feel like the woman's offer was really to **help/trick** you.

(h__p / tr__k)

Was the woman actually trying to be kind to you? Yes/No

You have to miss a class tomorrow because of a job interview.

You have a friend in the same course that you know is going to miss class because of a ski trip he has planned for next week.

He offers to take notes for you on the day of your interview but you wonder if it's just because he wants you to take notes for him while he's skiing.

After thinking about it, you end of feeling that his offer was **kind/ manipulative**.

(k__d / manipu__tive)

Was your friend's offer to take notes for you scheming on their part? Yes/No

You come home after dark and discover that your lights aren't working on your car and you're just about out of groceries.

You think about going without dinner, but you call your mother and she brings over some groceries for you.

You feel that she has done this out of her **love/obligation**.

(l__e / obl__ation)

Was your Mom motivated by her kindness toward you? Yes/No

Was your Mom motivated by her duty? Yes/No

It's toward the end of the quarter and you've done fairly well in a difficult class.

You know from other students that this professor is very hard with his grading.

At the beginning of the last lecture he tells the class that overall they have done very well with the material and he has really enjoyed their involvement with the class.

This professor is not prone to compliments and you know that he is administering the course evaluations at the end of this class.

You end up feeling that his compliment to the class was **genuine/manipulative**.

(gen_ _ne / m_ _ipulative)

Was your professor's compliment to the class authentic? Yes/No

You go out to dinner with a friend whom you know is very well off.

You have a very nice dinner with them and after they offer to pay the tab.

You feel that they have paid for your dinner out of their **generosity/surplus**.

(gener_ _ity /surp_ _s)

Did your friend primarily pay for your dinner out of their kindness? Yes/No

You work very hard to cook a nice dinner for 3 of your close friends.

After the meal, your friends insist that the next time you all get together, one of them will cook at their house.

Because of their comments, you wonder if your friends liked the meal.

After they leave, you think about this and decide that your friends' comments were **kind/unkind**.

(k_ _d / unk_ _d)

Were your friend's comments considerate? Yes/No

A friend offers you a piece of gum.

Though they are getting a piece for themselves too, you begin to wonder if they think your breath smells bad.

You decide your friend was being **considerate/offensive**.

(c_ _siderate / offens_ _e)

Was your friend being unkind? Yes/No

You work hard to clean your entire house before your mom comes over, including scrubbing the tub.

That night before everyone goes to bed, your mother asks where the bathtub cleaner is to give your tub the "once-over" before she showers.

As you think about her request, you decide her offer to clean was **helpful/ rude**.

(hel_ _ul / r_ _e)

Did you think that your mother cleaning the bathtub offensive? Yes/No

You are driving out in the country and you run out of gas right next to a farm.

The farmer is plowing his fields with his tractor and sees your predicament.

He comes over with a gas can and offers to give you what he has so you can make it to a gas station.

You fill your tank with the gas but wonder if it's the gas he uses for his tractor.

You make it to the gas station but the next day your car does a lot of sputtering.

As you think more about what the farmer did for you, you end up concluding that his help was **kind/ damaging**.

(k_ _d / dama_ _ng)

Was the farmer's assistance thoughtful? Yes/No

Was the farmer's assistance harmful to your car? Yes/No

You have left a flash drive with a lot of information on it in a classroom. Someone has taken the effort to return the flash drive to you. Because they didn't know you, you realize it took some time for them to figure out who the flash drive belonged to, but you also had all the information saved on your computer. As you're thinking about what they did for you, you end up feeling that returning the flash drive was really **considerate / unneeded**.

(con__derate / unne__ed)

Did you feel that this person returning your flash drive was a thoughtful act? Yes/No

Did you feel that this person returning your flash drive was something that was very beneficial to you? Yes/No

As you're checking out of the grocery store you notice that the cashier is particularly nice and friendly toward you.

You enjoy this communication and as you're getting ready to leave the cashier points out a web site on your receipt whereby you can take a satisfaction survey as to the services of the grocery store.

As you think about this interaction, you conclude that the cashier's behavior was because of their **kindness/ self-interest**.

(k__dnness / self-int__est)

Did you think the cashier was being nice just to get good survey ratings? Yes/No

Posttreatment Measures

The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate number in the space next to that word. Indicate to what extent *you feel that way right now, that is, at the present moment*, not necessarily how you feel generally or how you feel on average. Use the following scale to record your answers.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
___ interested				___ irritable
___ distressed				___ alert
___ grateful				___ ashamed
___ playful				___ joyful
___ excited				___ inspired
___ upset				___ thankful
___ strong				___ nervous
___ guilty				___ determined
___ scared				___ attentive
___ appreciative				___ jittery
___ hostile				___ active
___ enthusiastic				___ afraid
___ indebted (feeling obligated to repay)				___ amazed
___ proud				___ obligated
___ amazed				___ cheerful
___ delighted				___ lively

Recalling Benefits

Benefit (experimenter will write this for you): _____

The following questions involve the benefit above, and the person who provided it to you. Now we would like you to think about this benefit and put your honest responses to the items below.

To what extent was this benefit costly to the person who provided it to you? In other words, how much did it cost this person in terms of time, effort, money, etc.?

1	2	3	4	5	6	7
Not costly at all			Moderately costly			Very costly

To what extent do you think this benefit was intended by this person altruistic—intended for your benefit versus given with ulterior motives?

1	2	3	4	5	6	7
It was primarily given with ulterior motives			Somewhat for ulterior motives and somewhat for my benefit			It was primarily given for my benefit

To what extent do you think was this benefit intended to benefit you versus benefit the individual who provided the benefit?

1	2	3	4	5	6	7
It was primarily to benefit the giver			It was intended to equally benefit the me and the giver			It was primarily to benefit me

How valuable was this benefit for you?

1	2	3	4	5	6	7
Not valuable			Moderately valuable			Very valuable

Did this benefit meet your expectations of what you think you deserve?

1	2	3	4	5	6	7
It was very much below my expectations			It was about what I think I deserved			It very much exceeded my expectations

To what extent was this person meeting versus exceeding his or her obligations to you?

1	2	3	4	5	6	7
The person was not meeting his or her obligations to me			The person was meeting his or her obligations to me			The person was exceeding his or her obligations to me

How grateful are you for this benefit?

1	2	3	4	5	6	7
Not grateful			Somewhat grateful			Very grateful

How satisfied are you with this benefit?

1	2	3	4	5	6	7
Not satisfied			Somewhat satisfied			Very Satisfied

You are about to read a number of stories. Try to imagine yourself in each situation as it is described. Try not to memorize the sentences, but try to understand their meaning because you will be asked questions about them later.

House with a View

You have moved into a new house with a beautiful view. There is an empty lot across the street and someone begins to build on that spot. You are concerned that the new house will be several stories high and may block your view. The new owners come to visit and you tactfully discuss your concern with them. They respond by saying, "We'll think about it." When they are finished building, their house is just one story and does not impede your view.

Were there two houses built across the street? Yes No

Studying for a Test

You are studying for a difficult exam and you feel that you have a pretty good handle on the material. While studying, you receive an email from a friend listing a number of questions they think will be on the test. As you're reading the list of questions, you wonder how helpful these questions will be to your studying. You find yourself interested in your emotional response to this email.

Was the test you were studying for a difficult exam? Yes No

Winning the Lotto

You are very concerned about how you are going to pay for tuition next quarter. A friend of yours' just won \$200,000 in the State Lottery, and they give you enough money to pay for your tuition. When you ask them why they helped you they reply, "What else am I going to do with the money?" You find yourself thinking a lot about their response.

Did your friend win a lottery? Yes No

Birthday Party

Your partner has thrown a surprise birthday party for you and many of your good friends are present. You receive several nice gifts, but one friend gives you a gift that is not particularly expensive, but is something that you really need. You did not expect this gift and you ask your friend, "How did you know that I needed that?"

Did your partner have a piñata at your party? Yes No

A Free Drink

You have come in to participate in a psychology experiment. You have been scheduled for a 9:00 session, but the previous session is going a little long, so the research assistant asks you if you would like a soda while you're waiting. You think about why they would offer you a soda. They go out to the soda machine and buy you your favorite drink.

Was your session scheduled for 9:00? Yes No

Flat Tire

It's snowing out and after grocery shopping you go out to your car to find that one of your tires is flat. This is a new car for you, so you have never changed a tire on this car and you don't really know how to change it. Someone who has a similar car helps you put on your spare tire. After changing the tire your helper looks like they would like to say something to you and you think, "Why would this person help me?"

Have you owned this car for a long time? Yes No

Some Help Studying

You are taking 20 hours of credit this quarter, and you find that this is a challenging quarter. About half way through the quarter someone in one of your classes whom you do not know well gives you a book called, *How to Study Even When You don't Want To*. You wonder why they gave you the book.

Are you taking 15 hours in this quarter? Yes No

A Job Reference

Although you do not know Professor McAllister well, you have taken several classes from them and done fairly well in those classes. You are applying for a job and you are a little nervous about asking this professor for a letter of recommendation. They agree to write you a letter but they say that it is their policy that the letter needs to be confidential, meaning that you will not be able to see the letter. Your wonder what the letter will be like, but you get the job.

Did Professor McAllister know you well? Yes No

Finding an Internship

It is Winter Quarter of your senior year and you expect to graduate in the spring. You're concerned about getting work after you graduate but several of your friends have been able to get jobs after participating in internships at several potential work sites. After being unable to find an appropriate internship you ask your college advisor for help. A company has asked for potential interns and your advisor recommends you for this internship.

Are you on schedule to graduate in the spring? Yes No

An Unexpected Date

You are out having lunch with a good friend. Your conversation leads to discussing the fact that you are single and not currently interested in anyone. You comment that you are content in your situation. Later that evening your friend calls you to tell you they have set you up on a blind date with someone "who is a lot like you." You find yourself thinking a lot about what lead your friend to do this.

Are you content with being single? Yes No

Over for Dinner

You have just moved in to a new house and some new neighbors close to your new place invite you over for dinner. They serve you a very nice dinner that seemed to require a lot of cooking with expensive food. At the end of the evening they invite you over for another meal, and say that they would like to talk to you more about the neighborhood. You wonder about what they would like to talk to you about.

Did your neighbors discuss property taxes with you? Yes No

Computer Malfunction

You are writing a term paper that is due tomorrow. When you are almost done with the paper, the computer goes blank and you fear that you have lost all of your work. You try a number of things but the monitor remains blank. Your roommate comes in looking a little anxious and they look at the computer. They discover that the plug to your monitor has come out of the wall and when they plug it back in everything seems to be fine.

Did the hard drive on your computer crash? Yes No

An Interesting Gift

Several friends have joined you to celebrate your birthday. You receive several interesting gifts from them, and one of your friends gives you a book and a set of DVDs on a fitness program. As they give you this gift, they say, "It really worked for me." As you are enjoying your party, you think about this last gift and you wonder about what your friend thinks of you.

At this party, were you celebrating your anniversary? Yes No

Running Late to Class

You are running late to class and when you drive onto campus you spot a parking spot close to campus. As you're rushing up to the parking place, you notice that someone else has been waiting there for the spot before you got there. You're disappointed but they see you and wave for you to take the parking place. You wonder why they offered you the parking place.

Were you driving to campus? Yes No

Chosen for the Team

You are taking a class in which the term project is completed in teams. There are seven different teams in the class and your instructor assigns a "captain" to each team. The captains are then supposed to choose members for their team, each taking turns to choose each member. You know that one particular captain works hard, is organized, and is a good student. This captain picks you as the first member of their team. You wonder why they chose you first.

Were there 7 term project teams? Yes No

An Unexpected Bill

You receive a very high electric bill for last month that you did not expect. You wonder how you are going to pay for the bill and you know that if you do not pay for it the electric company is going to hire a debt collection agency to get their money. Your aunt has come to visit and she finds out about your situation. Although your aunt primarily relies on her Social Security checks for her income, she offers to pay your bill. You wonder why she is helping you but you accept her offer.

Did you expect a high electric bill? Yes No

Lecture Notes

You miss a crucial lecture in a class. When you show up for the next lecture an acquaintance from the class gives you a copy of their lecture notes from the lecture you missed. This surprises you and you ask them, "Why did you do this for me?"

Did you miss a test by missing this day of class? Yes No

A Difficult Class

You are taking a very difficult class that is core to your major. You spend a lot of time on the class because you want to do well, but when you add up your points you have fallen three points short of the total required to receive a 4.0. When you receive your grades you see that your instructor has awarded you a 4.0 in the class. You wonder why your professor gave you that grade.

Did you receive a 3.0 in the class? Yes No

Finding a Hotel

You are traveling and arrive in a city new to you, late at night. You are somewhat travel weary and have no idea where you might stay. You ask someone walking on the street if they know of a good hotel. They look at you carefully and give you clear directions to a hotel where you have a good night's rest for a reasonable price. You wonder why anyone would help you at this hour.

Did you have to visit a number of hotels before you could find a room? Yes No

Carrying Your Books

You have just waited in a long line to purchase your textbooks for the quarter. It's been a long day and for some reason you have a lot of particularly heavy texts this quarter. While struggling with your books someone you don't know asks if they can help you and they assist you in carrying your books to your car. As you are walking to your car you wonder why they are helping you.

Did you have to wait in line to buy your textbooks?

Yes

No

After you are finished, please hand in this packet to the experimenter and pick up the next packet.

Recognition Test

House with a View

Please look at these sentences and rate how similar in meaning they are to one of the descriptions you saw earlier. None of these sentences is worded identically to any that you have seen but any number of them (1, 2, 3, or 4) could be related to the description you saw earlier. Please rate each sentence, independently from all the others, for its similarity in meaning to the original you have already seen.

Your neighbor built their house with one story because this was the ideal design for them.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your neighbor has considered your situation carefully and they want to give you \$5,000 for building on their lot.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your neighbor built their house with one story because they wanted to preserve your view.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your neighbor has carefully considered their property and they want to build a multifamily apartment building.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Studying for a Test

Please look at these sentences and rate how similar in meaning they are to one of the descriptions you saw earlier. None of these sentences is worded identically to any that you have seen but any number of them (1, 2, 3, or 4) could be related to the description you saw earlier. Please rate each sentence, independently from all the others, for its similarity in meaning to the original you have already seen.

You felt grateful after receiving the email.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You received a very poor grade on the test you were studying for.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You received a very good grade on the test you were studying for.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt a bit anxious after receiving the email.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Winning the Lotto

Please look at these sentences and rate how similar in meaning they are to one of the descriptions you saw earlier. None of these sentences is worded identically to any that you have seen but any number of them (1, 2, 3, or 4) could be related to the description you saw earlier. Please rate each sentence, independently from all the others, for its similarity in meaning to the original you have already seen.

Your friend gave you money for your tuition because they really wanted to help you.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You won a \$50,000 lottery that helped you pay for your tuition and also allowed you to buy a new car.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend gave you money for your tuition because they might need a favor from you later.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You lost an academic scholarship that you thought would provide for your tuition.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Birthday Party

Your friend gave you this particular gift because they spent time thinking about what you would really need.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend gave you this particular gift because they got lucky and got something you really needed.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend started drinking shots and got drunk at your party and insulted you.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend is very well off and so they gave you an all expense paid trip to Mexico.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

A Free Drink

The research assistant bought you a drink because they wanted you to be comfortable while you were waiting.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The research assistant was 45 minutes late to your research study appointment, but did not apologize for their lateness.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The research assistant bought you a drink because they wanted to make sure you would stay for the study.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The research assistant was very nice and they gave you 5 additional extra credit points for your participation.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Flat Tire

The person helped you change your tire because they saw that you really needed help.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The person helped you change your tire because they needed your help as well.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The person pulled up beside your car and they drove you to the tire store.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

As you try to fix your tire you found that your spare tire was flat as well.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Some Help Studying

You felt very grateful that your acquaintance wanted to help you in your studying.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt great because your acquaintance told you that you were going to get great grades.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt that your acquaintance gave you the book because they thought you are not a very good student.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt bad because your acquaintance told you that you shouldn't have taken that many classes.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

A Job Reference

You were disappointed because the company closed the position that you applied for because of lack of funds.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt very excited because they offered you a higher position than the one you applied for.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your professor wrote you a letter because they felt that it is part of their job.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt grateful that your professor wrote you a good letter even though they didn't have to.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Finding an Internship

After requesting an appointment, your advisor did not have the time to meet with you.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt grateful for the effort that your advisor made in finding you an internship.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your advisor was really impressed with your resume and was able to secure a well paying job for you after graduation.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your advisor helped you find an internship because they just happened to have one available.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

An Unexpected Date

Your friend made you pay for the lunch bill.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend thinks you really need help in getting a date.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The person your friend set you up with is very attractive.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend believes they genuinely met someone who could make you happier.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Over for Dinner

Your new neighbors think you are a wonderful addition to the neighborhood and have given you a nice bottle of wine.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your neighbors enjoyed your company and you felt grateful for the dinner.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your new neighbors have invited you over for dinner again because they want to ask for some favor from you.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your new neighbors think that you are quite well off and so they asked for a donation to their charity.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Computer Malfunction

Your roommate carefully read your document and said that you had written a great paper.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your roommate fixed the computer because they needed to use it.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your roommate fixed your computer because they were concerned about your distress.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your roommate read your document quickly and criticized the content of your paper.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

An Interesting Gift

Your friends pooled their money to buy you a new espresso machine.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your friend ate something bad at your party and got sick.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You were a bit irritated about receiving a fitness program.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt grateful for the gift of the fitness program.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Running late to class

You found a parking space and the meter had been paid for another 3 hours.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your car broke down on the way to campus.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The person noticed that you were irritated with them, so they let you in to the parking space.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The person let you into the parking space because they were trying to help you out.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Chosen for the Team

You felt very proud because three of the team captains fought over you to be a member of their team.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

You felt very embarrassed because you were the last one in the class chosen by a captain for a team.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The captain picked you for their team because they knew that you would be willing to do most of the work for the team.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The captain picked you for their team because they knew that you would enjoy working on the term project with them.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

An Unexpected Bill

You felt grateful because your aunt really wanted to help you.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your aunt did not enjoy her visit and she criticized how messy and disorganized your place was.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your aunt has offered to help you because she will likely need your help in the future.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your aunt really enjoyed her visit and bought you new furniture for your place.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Lecture Notes

Your acquaintance provided you notes because they were concerned about the information that you missed from the class.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Your acquaintance noticed that you weren't in class and was gossiping about you during the class you missed.

1	2	3	4
---	---	---	---

*very different in
meaning*

different in meaning

similar in meaning

very similar in meaning

Your acquaintance saw that you were not in class and they complimented you during the class you missed.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

Your acquaintance provided you notes because they are planning on missing a class and would like to get notes from you.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

A Difficult Class

You received a 4.0 in the class because it would have been unfair for your instructor to give you another grade.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

You go to your instructor to discuss your grade and your instructor told you that you should have received a 2.5 in the class.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

You go to your instructor to discuss your grade and your instructor told you that you are an excellent student.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

You received a 4.0 in the class because your instructor wanted to reward your hard work.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

Finding a Hotel

The person gave you hotel directions because they really wanted you to have a good night's sleep.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

The hotel you were directed to welcomed you warmly and upgraded you to a luxury suite.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

The person gave you hotel directions because it was late at night and you made them a bit nervous.

1
*very different in
meaning*

2
different in meaning

3
similar in meaning

4
very similar in meaning

There weren't any available rooms at the hotel you were directed to and you had to drive to a new city.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Carrying Your Books

The bookstore did not have several texts that were needed for your classes.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The bookstore gave you an additional 20% discount on your texts.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The stranger helped you because they happened to be parked next to you.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

The stranger helped you because they thought that you would really benefit from their help.

1	2	3	4
<i>very different in meaning</i>	<i>different in meaning</i>	<i>similar in meaning</i>	<i>very similar in meaning</i>

Below are eight statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

- 7. Strongly agree
- 6. Agree
- 5. Slightly agree
- 4. Mixed or neither agree nor disagree
- 3. Slightly disagree
- 2. Disagree
- 1. Strongly disagree

- 1. ___ I lead a purposeful and meaningful life
- 2. ___ My social relationships are supportive and rewarding
- 3. ___ I am engaged and interested in my daily activities
- 4. ___ I actively contribute to the happiness and well-being of others
- 5. ___ I am competent and capable in the activities that are important to me
- 6. ___ I am a good person and live a good life
- 7. ___ I am optimistic about my future
- 8. ___ People respect me

Please rate the following four items for how you're feeling **right now** (not necessarily how you may generally feel or think):

1. Right now, the spiritual part of my life is very important to me.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

2. Right now, my relationship with a power greater than myself is important to me.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

3. Right now, I feel very grateful toward God.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

4. Right now, I feel very appreciative of God.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

5. Right now, I feel very close to God.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

6. Right now, I feel that my relationship with God has grown.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

7. Right now, I feel God's presence in my life.

1	2	3	4	5	6	7
Very						Very
un characteristic of						characteristic of
me						me

Below are five statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

- 1 = Strongly disagree
- 2 = Disagree
- 3 = Slightly disagree
- 4 = Neither agree nor disagree
- 5 = Slightly agree
- 6 = Agree
- 7 = Strongly agree

- _____ 1. In most ways my life is close to my ideal.
- _____ 2. The conditions of my life are excellent.
- _____ 3. I am satisfied with my life.
- _____ 4. So far I have gotten the important things I want in life.
- _____ 5. If I could live my life over, I would change almost nothing.

GQ-6

Using the scale below as a guide, write a number beside each statement to indicate how much you agree with it.

1 = strongly disagree

2 = disagree

3 = slightly disagree

4 = neutral

5 = slightly agree

6 = agree

7 = strongly agree

- ____ 1. I have so much in life to be thankful for.
- ____ 2. If I had to list everything that I felt grateful for, it would be a very long list.
- ____ 3. When I look at the world, I don't see much to be grateful for.
- ____ 4. I am grateful to a wide variety of people.
- ____ 5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
- ____ 6. Long amounts of time can go by before I feel grateful to something or someone.

Your Experiences Last Week

For the following items we would like you to indicate your opinions and experience *for the last week*, as honestly as you can. For each item, please circle the number that is associated with your response. Please note that the scale changes at item 9.

1. In the past week, how often have you felt joyful?

1	2	3	4	5	6	7
Not at all	Hardly at all	A few times	Several times	A number of times	Fairly Often	Frequently

2. In the past week, how often have you felt enthusiastic?

1	2	3	4	5	6	7
Not at all	Hardly at all	A few times	Several times	A number of times	Fairly Often	Frequently

3. Because of the joy I experienced this week, time just seemed to fly.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

4. This week I found myself enjoying something so much that I lost track of time.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

5. This week I felt free.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

6. This week, I felt ready to enjoy whatever opportunity presented itself.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

7. Something happened this week that made me feel like celebrating.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

8. This week, the reality of my life was the way I feel it should be.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

9. This week, I felt free to play.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

10. This week, my life went well.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

11. This week, life just made sense to me.

1	2	3	4	5	6	7
Completely Disagree			Neither agree or disagree			Strongly Agree

For the following statements, please indicate how true you feel they are of you. We are interested in your honest feelings and reactions to these statements, there are no right or wrong answers to these items. Please use the scale below, and write down the number next to each item that best represents your honest feelings about that item.

- | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|------------------------|---|--|---|------------------------------|---|---|---|---|
| | I strongly
disagree | | I disagree
somewhat | | Neither agree
or disagree | | I mostly
agree with the
statement | | I strongly
agree with the
statement |
| 1. | _____ | | God has given me an overwhelming number of blessings in my life. | | | | | | |
| 2. | _____ | | Simple pleasures like a beautiful view or a delicious meal often remind me of how good God has been to me. | | | | | | |
| 3. | _____ | | When I think of how good others have been to me, it makes me feel very thankful to God. | | | | | | |
| 4. | _____ | | Quite frankly, I feel very bitter toward God. | | | | | | |
| 5. | _____ | | Because my life has been so bad, I have very little to thank God for. | | | | | | |
| 6. | _____ | | When I see the beauty of new life in the spring I feel very thankful toward God. | | | | | | |
| 7. | _____ | | More than my share of bad things have happened to me, and this makes me bitter toward God. | | | | | | |
| 8. | _____ | | When I think of what others have done to me in my life, it makes me feel bitter toward God. | | | | | | |
| 9. | _____ | | I really believe that God has rescued me from a horrible life and destiny. | | | | | | |
| 10. | _____ | | When I think of what others have done for me in my life, it makes me appreciate God even more. | | | | | | |
| 11. | _____ | | I feel very grateful to God when I think of my family. | | | | | | |
| 12. | _____ | | I think that it's important to regularly remember the good things God has done for me. | | | | | | |
| 13. | _____ | | My life is filled with God's grace. | | | | | | |
| 14. | _____ | | Life is a wonderful gift from God. | | | | | | |

What do you think we were trying to investigate with the computer task? What did you think we were trying to find out?

Do you believe in a personal God? (please circle one) No Maybe Yes

Age: _____ years old Year in School Fr So Jr Sr

Gender: ___M ___F ___ Other

Race or Ethnicity: _____ (feel free to not declare)

Approximate Income of **Parents** last year (combined; please check the blank that represents your best estimate):

___0-5,000 ___5,000-10,000 ___11,000-20,000 ___21,000-30,000
 ___31,000-40,000 ___41,000-50,000 ___51,000-75,000 ___76,000-100,000
 ___101,000-150,000 ___151,000-200,000 ___Greater than 200,000

Approximate **Personal Income** (what you earned through various jobs; please check the blank that represents your best estimate):

___0-5,000 ___5,000-10,000 ___11,000-20,000 ___21,000-30,000
 ___31,000-40,000 ___41,000-50,000 ___51,000-75,000 ___76,000-100,000
 ___101,000-150,000 ___151,000-200,000 ___Greater than 200,000

Study Announcement

This study is designed to investigate how your imagination can impact various psychological states. In this study you will be asked to complete some initial questionnaires and then you will be imagining yourself in a number of different scenarios. For example, you might imagine what it might be like to receive a \$2,000 inheritance. The initial questionnaires should take only a few minutes to complete. First, we will ask you to complete several questionnaires concerning your current emotions (i.e., how you're feeling right now). Then we will ask you to imagine yourself in a number of different scenarios, and we will ask you some questions about each scenario (e.g., "Did you enjoy receiving the \$2,000 from your aunt?"). The imagination section of this study should take anywhere from 30 to 40 minutes. After imagining these scenes, we will then administer several questionnaires. The questionnaires being administered ask you various questions about your current feelings and your opinions on issues such as how much you agree with the statement "Life has been good to me", and "I love the green of spring." Some questionnaires will ask you to report about other aspects of your life such as your feelings about those you are associated with. We will also ask you to recall several situations in which someone else has benefitted you recently, and will ask several questions about your thoughts as you reflect on these situations (e.g., "As you think about this situation, how happy does it make you?"). In total, this study should take approximately an hour.

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Area of Study:

My current focus is on obtaining a Master's of Science in Clinical Psychology from Eastern Washington University, and then pursuing a doctoral degree in Clinical/Community Psychology.

Education:

Eastern Washington University- Cheney, WA Masters of Science Clinical Psychology - Graduation December 2019

Eastern Washington University- Cheney, WA Bachelors of Science Psychology - Graduation June 2017

Olympic College- Bremerton, WA – Direct Transfer Associates of Arts Degree- June 2015

Grants/Honors and Awards:

Washington State Opportunity Scholarship (WSOS) - Recipient 2015 and 2016

EWU Honor's Scholarship Award- Recipient 2015

Dean's List- Academic School Year 2015-2016 Eastern Washington University

President's List- Academic School Year 2013-2015 Olympic College

Publication/Presentations:

EWU Capstone Presentation- Full Moon Effects on Psychiatric Patients

EWU Symposium- Co-Researched and Presented on Parkinson's Disease and Impulse Control

EWU Poster session and Presentation - Non-Antibacterial Cleaners VS. Lysol

Recent Employment:

Frontier Behavioral Health- December 2018 -Present- Regional Crisis Line Telephone Screener

O'Reilly Auto parts- December 2006 - September 2013- Assistant Manager/Store Manager

Volunteer Experience:

First Call for Help-May 2016- June 2017 - Crisis Response Services Volunteer

Feed Cheney- September 2015- Current- Volunteer

Kitsap Parks and Recreations- September 2014- June 2015 – Park's Management Volunteer

Mason County Fire and Rescue - April 1998- September 1999 – Firefighter/First Responder

Scholarly or Professional Memberships:

EWU Honors Society

Phi Theta Kappa Honors Society Member

American Psychological Association (APA)-Student Affiliate Member

References:

Professor Amy Lawrence- Full Time Faculty- Olympic College

John Dubois- Supervisor at First Call for Help Spokane (Frontier Behavioral Health)

Katie Baca- Supervisor at O'Reilly Auto Parts

Susan Edwards- Supervisor at Feed Cheney